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CATALOGUE
OF

WINDMILLS

AND

SUPPLIES

SEARS, ROEBUCK & CO.
CHICAGO

CERTIFICATE OF GUARANTY.

OUR BINDING GUARANTEE.

To satisfy our customers that our Improved Kenwood Steel Windmills and Towers are as good as we represent them to be, and that our statements are made in absolute good faith, every Improved Kenwood Steel Windmill and Tower which is sold by us is sold under the following guarantee

GUARANTEE:

We guarantee our Improved Kenwood Steel Windmills and Angle Steel Towers to be perfect in material and manufacture and to be perfect in operation if correctly put together, properly cared for and managed. Also, that said windmills, when properly cared for, will endure as hard service and accomplish as much work as any steel windmill made, of corresponding size, and that said windmills and towers, when erected according to directions, will stand without damage all winds which do not seriously damage other windmills or towers, or blow down buildings or live trees in the immediate neighborhood of said windmills and towers, and that the tower will not buckle, break or blow down unless the anchorage gives way. Any defects in material or workmanship will be made good to the purchaser without charge, on our receiving satisfactory evidence that a defect existed. This guarantee is in full force and effect for one year from the date on which the windmill and tower is shipped.

THIS IS THE STRONGEST GUARANTEE

which it is possible for anyone to make on a windmill or a windmill tower, and one which cannot be safely duplicated by many windmill manufacturers or sellers.

DELIVERY.

We guarantee the safe delivery of every article shown in this catalogue, which we ship to a station where the Railroad Co. have an agent, and will furnish free, transportation prepaid, any part either lost or broken in transit, only requiring the purchaser to examine the goods when received, and see whether the shipment is complete and in good condition, and if not he should cause the agent of the transportation company to note the shortage or breakage on the receipt for the freight charges which he pays, and send this receipt to us when reporting the shortage or breakage. This receipt is known as an expense bill and must be sent to us when making request for parts to replace loss or breakage in transit.

SEP 1 1903

this material is re-

the

A CATALOGUE of WINDMILLS

Towers, Tanks, Pumps,
Cylinders, Pipe, Fittings,
Well Supplies, Etc., Etc.

MANUFACTURED EXCLUSIVELY FOR AND SOLD ONLY BY

SEARS, ROEBUCK & CO.

CHEAPEST SUPPLY HOUSE ON EARTH :: :: :: CHICAGO, ILL.

138V

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ILLUSTRATION No. 1

Showing our No. 32N1451 Regular Pumping Windmill Outfit. Price, $33.35, consisting of an 8-foot Improved Kenwood Galvanized Steel Pumping Windmill and a 30-foot Improved Kenwood Galvanized Steel Regular Pumping Windmill Tower. A very popular outfit. Price does not include pump or tank.

Rec'd SEP 1 1903

To Our Patrons and Others:

IN CALLING YOUR ATTENTION to our line of Improved Kenwood Galvanized Steel Windmills and Towers, we feel confident we are presenting a line of goods, which, in every way, are superior to most and equal to any made. In selecting our line of windmills and towers, we have carefully canvassed the market to find out the good and bad points of every windmill and tower made. We have fully investigated and carefully considered the advantages and disadvantages of the different windmill makers, with a view of having manufactured exclusively for us a windmill thoroughly up to date, embodying all the latest improvements, all the good features of all high grade windmills made, with the defects of none; in fact, we have avoided all weak points, and have strengthened our windmills with the strong points of the very best windmills made.

OUR WINDMILLS ARE BUILT OF STEEL,

Practically non-destructible; built to require little care, and with little care last forever; built with a view of giving the greatest amount of power for equal velocity of wind, and we can honestly state that the Improved Kenwood Windmill will pump more water in a lighter wind than any other windmill made.

N THIS CATALOGUE WE HAVE ENDEAVORED

To go into every little detail by illustration and description, so that you can form almost as good an idea of the mechanical construction, of the material and the general excellency of the Improved Kenwood Windmill from this booklet, as if you were to examine the windmill itself. From a careful study of this catalogue you will be able to intelligently compare the Improved Kenwood Steel Windmills with the windmills sold by your dealers at home.

THE IMPROVED KENWOOD

Galvanized Steel Pumping and Power Windmills and Towers are made expressly for us under contract by one of the best windmill makers in this country. They are built from the very best materials throughout, as fully explained in this booklet. The windmills are built on the very latest lines, embodying every good feature in windmill building, as adopted by the very best makers. Nothing but the very best of material enters into their construction. There is nothing in an Improved Kenwood to get out of order, simple to care for, needs less care than almost any other windmill. Heavy enough in every part to be very strong and durable and not so heavy as to be hard to manage and hard to run; strengthened in many points where other windmills are weak, lightened in several points where other mills are heavy and hard to manage; in other words, a perfect windmill, containing all the good points of all windmills, with the defects of none.

ABOUT THE PRICE

THE EXTREMELY LOW PRICES at which we quote windmills and towers, often gives rise to the question, are they good windmills and good towers? Are they as good as I can buy from my dealer at home at double the money? Is it possible to build such a windmill and such a tower for so little money? We know your dealer at home will say it is impossible, we know he will say the windmill is not good and the tower is not strong and well built. He will tell you a first class windmill and tower cannot be built for the money we offer ours, and really he cannot be blamed for offering this argument. Some dealers really believe when they make this statement that they are telling the truth, especially when they themselves are compelled to pay at wholesale at least 50 per cent more for the windmill they buy than the price at which we sell direct to the user. If the dealer has seen one of our windmills he knows it is the equal of any windmill made, regardless of price. If the prospective buyer has seen one of our windmills in his neighborhood, he doesn't ask the dealer any questions and it doesn't matter what the dealer says. He, too, knows that our windmill is the equal of any windmill made; but as this booklet will fall into the hands of thousands of prospective buyers who have not as yet seen an Improved Kenwood Windmill,

and as such buyers consulting their dealers at home will hear every kind of an argument advanced to discourage them from sending to us, and as we ourselves or our representative cannot be on the ground to explain or refute any argument that may be introduced against our windmill, we give a guarantee, a free trial offer and a free subject to examination purchase proposition, intended to refute any kind of argument against our windmill, intended to put our windmill, without expense or risk to the buyer, in competition with any windmill made, and to let the buyer take his own time in comparing, testing, consulting and fully deciding, if, indeed, the Improved Kenwood Windmill, at about one-half the price charged by others, is superior to most and equal to any of the highest grade steel windmills made. Our prices are based on the actual cost of material and labor, the cost of the steel and other material, the cost of labor with but our one small percentage of profit added. From our prices are eliminated all the selling expenses of traveling salesmen, wholesale houses, retail dealers, solicitors, collectors, bad debts, long time, interest, handling, double storage, etc. Our price is a simple proposition. It is a spot cost, a factory cost, a material and labor cost, with our profit added to it, and our profit is small.

OUR BINDING GUARANTEE

Every Improved Kenwood Windmill and Tower is sold under the binding, one year's guarantee, shown on the inside front cover of this catalogue, by the terms and conditions of which, if any piece or part gives out within one year, by reason of defect in material or workmanship, we will replace or repair it free of charge. With only ordinary care one of our steel windmills or steel towers will last a natural lifetime.

OUR THIRTY DAYS' FREE TRIAL OFFER

To give every buyer an opportunity to see, examine, test and compare our windmills with other windmills, we ship every windmill outfit with the understanding and agreement that after it is set up on your own ground you are at liberty to give it thirty days' trial during which time you can put it to every test, and if for any reason you become dissatisfied with your purchase within thirty days, you are at liberty to return the windmill to us at our expense of freight charges both ways and we will immediately return your money.

OUR LIBERAL TERMS

WHILE nearly all our customers send cash in full, thus saving the inconvenience of going to the bank or express office to pay the collection fee and also saving the charge for collection, which is usually from 25 to 50 cents, if you do not wish to send cash in full with your order, then send with your order one-fifth of the price of the goods. We will then send the windmill to you by freight, C. O. D., subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory and exactly as represented, then pay the railroad agent the balance of our price and freight charges, with the understanding that you are to have the privilege of returning the windmill to us at any time within thirty days if it does not prove satisfactory, and your money is to be immediately refunded to you.

ADVANTAGES OF SENDING CASH

WE ADVISE EVERYONE when ordering windmills to send cash in full with their order, and thus save all the inconvenience and expense of the draft which accompanies C. O. D. shipments, either to the express company or to the bank. You take no risk in sending cash in full with your order, for if the goods are not found perfectly satisfactory we will immediately refund your money and the goods will be returned to us at our expense.

ABOUT OUR RELIABILITY

IT WOULD HARDLY SEEM NECESSARY for us to make mention of our reliability, or give any special reference, for there are certainly very few people who will receive this book who are not acquainted with the reputation of Sears, Roebuck & Company for fair and honorable dealing; comparatively few who receive this book who have not at some time purchased goods from us, and even if not acquainted with our reputation it isn't necessary to go out of any neighborhood to find out all about us. Your neighbor knows us. There isn't a town, a hamlet or community in any state in the United States where we haven't customers. We are shipping goods almost every day into your immediate neighborhood, into every town in every state. We refer you to the people in your own neighborhood who have dealt with

us. If we have satisfied them, we can satisfy you. If we haven't satisfied them, we won't expect you to order from us.

WE ARE AUTHORIZED AND INCORPORATED

Under the laws of the State of Illinois, with a cash capital and surplus of over Two Million Dollars. We are the largest dealers in general merchandise in the world selling direct to the consumer. We refer by special permission to the National City Bank of New York, to the First National Bank and Corn Exchange National Bank of Chicago; also to any railroad company, express company, business house or resident of Chicago.

HAVE YOU A FRIEND IN CHICAGO?

If you are thinking of buying a windmill outfit, and if you have not fully decided what or where to buy, and if you have a friend in Chicago, we would especially urge that you write your friend to come to our store and let him look carefully into the merits of our windmills and other windmills, and if he then advises you that you can buy a better windmill from us for less money than you can buy elsewhere, give us your order; otherwise, we will not expect it.

KINDLY READ THIS BOOKLET THROUGH CAREFULLY

Note the construction of our windmill work throughout, as fully described by illustration and description, consider our guarantee, our free trial offer, our free to examine terms of shipment, and then favor us with your order, unless in the meantime you would like some special information not furnished or made clear in this book, in which case kindly write us and we will be pleased to give you any special information concerning these goods.

Very truly yours,

SEARS ROEBUCK AND CO

JUST AS REPRESENTED.

Atco, N. J.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—The windmill arrived in good order, and has proven entirely satisfactory and as represented, and justifies all claims made for same.

Very truly yours, W. A. MURRAY.

IMPROVED KENWOOD GALVANIZED STEEL WINDMILLS

AND GALVANIZED ANGLE STEEL FOUR-POST TOWERS

Windmills from - - - - - - - - -	$11.95 to $31.25
Towers from - - - - - - - - -	12.85 to 66.20
Regular Pumping Windmill Outfits from - - -	24.80 to 84.10
Suburban Pumping Windmill Outfits from - -	58.25 to 103.55
Power Windmill Outfits from - - - - -	41.60 to 105.30

Improvement in the design, construction, efficiency and wearing qualities of all the various machines which we sell is one of the very important features which is never lost sight of by us, no matter what it may cost to obtain the desired results and no matter how much time or labor we may be compelled to devote to this one particular object.

OUR IMPROVED KENWOOD WINDMILLS AND TOWERS are the result of our several years' experience in the sale of this class of goods, and are vastly superior to the windmills and towers previously sold by us and to all other makes of windmills and towers. The design of the entire line is in strict conformity with modern steel windmill and tower construction, every feature, even to the smallest detail having received careful attention in all particulars relating to strength, efficiency, wearing qualities and general durability.

OUR CONSTANT AIM is to reduce our prices and increase the quality of our goods, our object being to furnish the best goods which skilled labor can produce at the very lowest prices which can possibly be made and by so doing give perfect satisfaction to our customers, placing in their hands absolutely first class goods at a minimum price and therefore making a constantly increasing number of satisfied customers, which increases our sales to such an extent that we can afford to make very close prices.

OUR PRICES on the Improved Kenwood Galvanized Steel Windmills and Galvanized Angle Steel Towers are a simple proposition.

We sell more windmills and towers direct to the consumer than any other three houses in the United States; consequently we can make the low prices which we do, first, because of the large volume of goods which we sell, and second, because the prices are spot cash prices, based on the actual cost of material and labor, with but a very small percentage of profit added. They are prices which cannot be duplicated by anyone on windmills of any character.

CONSTRUCTION OF THE IMPROVED KENWOOD GALVANIZED STEEL WINDMILLS

THE WIND WHEELS AND VANES of all sizes of Improved Kenwood Pumping Windmills are similarly constructed and the wheel and vane of the 12-foot pumping and 12-foot power windmills are identical. The construction of the wind wheels and the vanes differing only in the sizes, the general measurements, the weight and strength of the materials used and the number and size of the sails and arms in the different sizes of windmills.

ONE OF THE MOST IMPORTANT PARTS of a windmill is the wind wheel and the arms which support it. The arms of the improved Kenwood Windmills are made of heavy flat steel bars, set tangent and braced in such a manner that it makes the wind wheel absolutely rigid and strong. These arms being set tangent not only add to the strength of the wind wheel, but they add to the efficiency of the windmill. Take any size of the Improved Kenwood Windmills, not connected to a pump and the arms alone present sufficient surface to the wind to run the assembled motor with a wind of fair velocity. There are four arms on the 6-foot wheel, five arms on the 8-foot wheel, six arms on the 10-foot wheel and seven arms on the 12-foot wheel and there is provision made so that when attaching these arms they can be adjusted to make the wheel run absolutely true, a feature which we believe is not to be found in any other windmill. The inner and outer wind wheel rims are made of heavy flat steel, turned edgewise, so as to give ample strength, and these rims are bolted solidly to the outer end of the arms and to the arm braces.

THE SAIL SECTIONS OF THE WINDMILLS are galvanized after completion, as are all steel parts of our windmills and towers. This work is all done at our factory and by workmen who are skilled in the operation of galvanizing, consequently as all parts are thoroughly protected by galvanizing, they are practically indestructible, will not rust and will last an indefinite length of time. Special care is exercised in our galvanizing plant to produce goods which present a clean, handsome appearance and to avoid the ragged edges which are caused by the drippings, and while these rough edges cannot be entirely avoided, we turn out the very best work which can be produced.

THE 6-FOOT WIND WHEELS have 16 sails, which are 28 inches long, 12 inches wide at the outer end, and 4½ inches wide at the inner end. The 8-foot wind wheels have 20 sails which are 30 inches long, 12 inches wide at the outer end, and 4½ inches wide at the inner end. The 10-foot wind wheels have 24 sails, which are 30 inches long, 12 inches wide at the outer end and 4½ inches wide at the inner end. The 12-foot wind wheels have 28 sails, which are 36 inches long, 15 inches wide at the outer end and 8 inches wide at the inner end.

THE AMOUNT OF WIND SURFACE and openings through which the wind escapes from the wheel, is carefully calculated so as to obtain the best results. The angle and curvature of the sails is made to run the wind wheel so as to give 8-foot and 10-foot windmills an average of forty strokes of the pump rod per minute with a wind blowing at a good velocity, the windmills being geared back three to one, that is, the wind wheels making three revolutions to each up and down stroke of the pump rod. The 6-foot windmill is geared four to one and the 12-foot pumping windmill is geared two and two-thirds to one. The 6-foot wind wheels run faster and the 12-foot wind wheels run slower than do the wheels of the 8-foot and 10-foot windmills.

THE VANES of the Improved Kenwood Windmills are properly proportioned to govern the windmill, the arms being of proper length and the steel vane sheets being of proper length and width to best accomplish this object. The lower arm of the

vane is made of a very heavy steel angle bar and the upper arm of a lighter steel angle bar. The reason the lower arm is heavier than the upper and the upper lighter than the lower is to give strength where it is required and lightness where the greater strength is not required. As will be seen from the various illustrations the spread of the vane where it is hinged to the motor is very wide, the vane being made in this way to keep it from twisting, and to obviate a fault which is to be found in a great many windmills.

AS GOOD AS CAN BE BOUGHT.

Maitland, So. Dak.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The windmill received from you last June is up and running fine. Is from $5.00 to $7.50 cheaper than others, and is just as good as any on the range here. If we buy any more they will be from Sears, Roebuck & Co.

Respects, J. A. BALL.

RUNS TWO YEARS WITHOUT REPAIRS.

Parnell, Kent County, Mich.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: In regard to the windmill I bought of you will say it gives perfect satisfaction. I have run it nearly two years without one single hitch or one cent paid out on it for repairs. I feel I saved money by buying of you. I had an expert put up my windmill. It pays every time. Lots of the trouble in windmills is caused by not being properly set. Yours respectfully, S. D. NORMAN.

BETTER THAN THEY EXPECTED.

DeCliff, Ohio.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: In regard to the windmill will say that the windmill is as good, or better, than we expected to find it, and cheaper than we could have bought here. We also send by mail for another bill of goods. I am thinking of taking a trip to Kansas, If I do, and can find your place of business, will come and see you.

I remain, yours respectfully, CHARLES RAUX.

HAS SAVED $75.00 OR MORE BY PURCHASING OF US.

Haverhill, Kansas.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I received one windmill about two years ago and if I hadn't liked it I would not have sent for another last summer. They have proved all that you claimed them to be. They saved me about $25.00 on the two windmills. The two sewing machines are also very satisfactory and have proved all you claimed for them. According to the way they are selling here, I have saved about $50.00 on the two machines. The bicycle proved satisfactory too, as did all the numerous other things I have received from you. I have no complaint, whatever, to make. My purchases have amounted to $200.00 to $300.00.

Very truly yours, A. J. LIETZKE.

OUR IMPROVED KENWOOD GALVANIZED STEEL PUMPING WINDMILLS

$11.95 to $29.95

TO BETTER ILLUSTRATE the Improved Kenwood Pumping Windmills, which we claim are the best pumping windmills ever sold to anyone at any price, we show herewith three illustrations of our high grade Improved Kenwood Galvanized Steel 8-Foot Pumping Windmill as it appears when mounted on a steel tower.

Illustration No. 2 is a picture of the windmill taken behind the wheel and to the left of the vane. It shows the con-

Illustration No. 2

struction of the wheel throughout as it appears when looking at the back of the wheel. It also shows the perfect model of the vane employed in all Improved Kenwood Windmills, the strongest, handsomest and best made vane used on any windmill.

THE TANGENT ARMS AND BRACING, which make the wheel of the Improved Kenwood Windmill so strong, are plainly shown in this illustration, and we are sure that it will convince you

that the Improved Kenwood wind wheel is the strongest and best braced windmill wheel made, a wheel that will stand almost any kind of a storm and will never blow down or become wrecked, unless the velocity of the wind becomes a tornado or cyclone. In this view we show the windmill with the vane and wheel in the position taken when the wheel is in operation, namely, with the vane standing at right angles with the wheel.

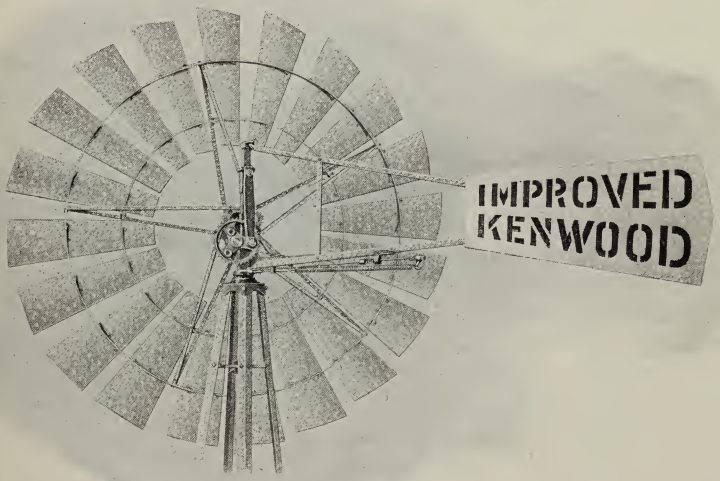


Illustration No. 3

In Illustration No. 3 we show a full back view of the Improved Kenwood Pumping Windmill, the wheel being parallel with the vane, being the position taken by the wheel when the windmill is not in operation. In this illustration you will note that there are no obstructions of any kind to prevent the wind from exerting its full force and effect upon the sails of the Improved Kenwood Windmill; in other words, there are no circles running through the sail sheets and no beads around the edges of the sails to cause undue friction.

You will also note the great width and strength of the vane hinge, and the powerful leverage which the governor exerts on the vane, owing to the distance from the vane hinge to the point where the governor connects with the lower vane bar. This vane **cannot** be blown into the wheel.

The Picture Shown in Illustration No. 4 is taken in front and to the right of the wind wheel, its special purpose being to show you the perfect design and construction of the wind wheel used on the Improved Kenwood Windmills. In this illustration the vane and wheel are shown at right angles with each other, as they appear when the windmill is in operation. Every sail and every part of the wheel, the bracing and everything that enters into the construction of the Improved Kenwood Wheel, is very clearly shown in this illustration.

Illustration No. 4

It is impossible to design or build a stronger windmill wheel than that furnished on the improved Kenwood line of windmills.

While these three illustrations are exact reproductions of our well known high grade Improved Kenwood Galvanized Steel 8-Foot Pumping Windmill, they also give you a clear idea of the general construction of all Improved Kenwood Windmills. Taken in connection with detailed illustrations and descriptive matter, which will be found in the following pages, you can obtain as intelligent an idea of the Improved Kenwood Windmills as though you could see the windmills themselves and examine them piece by piece.

HAS GIVEN SATISFACTION

Sears, Roebuck & Co., Chicago, Ill. Batesville, Texas.

Dear Sirs: The windmill I bought of you last spring has given entire satisfaction.

Yours truly, MONROE MARTIN.

IMPROVED KENWOOD GALVANIZED STEEL BACK GEARED PUMPING WINDMILLS

THE ASSEMBLED MOTORS of all Improved Kenwood Pumping Windmills are alike in general construction, the difference being in the weights, measurements and strength, each being properly proportioned to the size of wind wheel and vane which they are to carry. The motor for the 6-foot windmill is the lightest of the different sizes. The motor for the 8-foot windmill is the next heavier and the same motor is used for the 10-foot windmill, except that the shaft is heavier, the motor being abundantly strong for either size The motor for the 12-foot windmill is the heaviest of the lot, it being designed especially for very heavy work such as is required of a windmill of this size, which size of windmill is generally used for very deep wells, or for irrigation purposes.

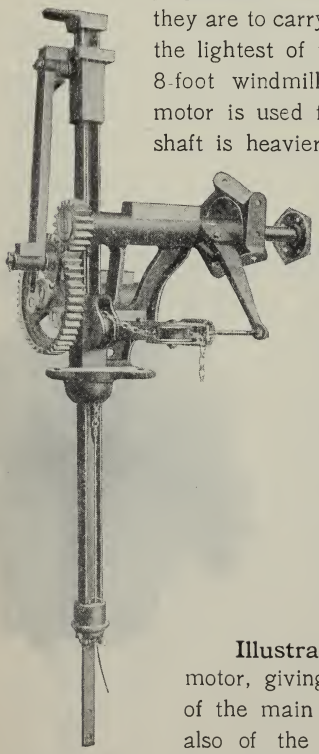


Illustration No. 5

Illustration No. 5 shows the left hand side of the motor, taken partly from the back of the mill, giving a clear idea of the manner in which the wind wheel arms are set tangent on the wheel spiders and position of the gearing and the different strokes of the mill.

Illustration No. 6 shows the right side of the motor, giving a clear conception of the construction of the main frame and the adjustable gear shaft box, also of the connecting rod, the vane hinge and the wind wheel spiders. Both illustrations show the steel channel bar stem to which the different parts of the motor are secured and which forms a pivot or turning post for the entire windmill. This stem is made of very heavy channel steel, and the main casting and the different parts of the motor are secured to it by strong set screws. This bar has a casting at its upper end, to which

the upper bar of the vane is hinged; it has a casting at the lower end, the outside of which is circular shaped to fit the step box which guides and holds the lower end of the bar and keeps the mill plumb. This casting also guides the steel pump rod and the pull out wire. The upper end of the stem forms guides or ways for the pitman head.

THE MAIN CASTING of the motor is heavy and strong and is fastened to the stem at the extreme upper and lower ends of the casting. The bearings for tne main shaft are contained in this main casting, they are formed by a very long sleeve which is babbitted at both ends, the center forming an oil chamber and having a large oil box on the top The lower bar of the vane is also hinged to this casting and one of the sheaves around which the pull out chain passes is contained in this casting.

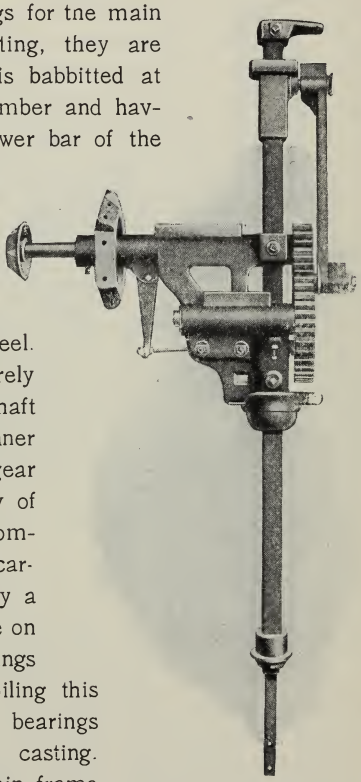


Illustration No. 6

THE MAIN SHAFT which carries the wind wheel is cold rolled steel. The two wind wheel spiders are securely fastened to the outer end of this shaft and the small gear is fastened to the inner end, the large spider and the small gear forming collars which prevent end play of the shaft. The large gear, which is commonly known as the pumping gear is carried by a shaft which is supported by a casting having bearings similar to those on the main casting, except that the bearings are shorter. Provision is made for oiling this shaft by an oil chamber between the two bearings and a large oil cup on top of the casting. This casting is bolted securely to the main frame and can be adjusted so that the large gear and the small gear can always be kept in perfect line and at proper mesh This is a very important feature which will not be found on other windmills and is one which will be thoroughly appreciated by the many users of windmills who have had trouble with gearing which

was not properly meshed and which had become worn by continual use.

THE MAIN GEAR provides for three different lengths of pump stroke, on each windmill. The strokes of the 6-foot, 8-foot and 10-foot windmills being 4 inches, 6 inches and 7 inches, and the strokes of the 12-foot windmill being 6½ inches, 8 inches and 9 inches. These different strokes are obtained by securing the wrist pin into one of the three holes which are bored in the large gear.

THE CONNECTING ROD which operates the pump rod has a long bearing at each end and each bearing is provided with a large oil cup. This rod connects with a pitman head which has long bearing surfaces and is guided by and works upon the channel bar stem, this pitman head being provided with a large oil cup or chamber at its upper end and connecting on the inner side of the channel bar direct to the steel pitman rod. This steel pitman rod passes down the inner side of the channel bar and through the end casting before referred to, where it connects by means of a swivel joint direct with the wood pump pole of the windmill.

THE IMPROVED KENWOOD WINDMILLS pivot or turn on the turn table very easily, in fact, more easily than the so-called ball bearing mills. This because the lower surface of the main casting is perfectly true and is chilled hard and smooth. The main casting rests upon a pivot casting, the upper surface of which is chilled perfectly hard and true, the lower surface being semi-circular shaped to rest into the cup shaped top of our tower caps or mast caps. A suitable oiling device is provided for oiling these pivot surfaces and aside from causing the windmill to turn freely and easily, the construction referred to allows the windmill to adjust itself to any or all irregularities without binding or cramping the pivot.

THE PULL-OUT WIRE after being passed through the pump pole swivel joint, to prevent it from winding around the pump pole, passes up through the inner side of the channel bar stem and connects with the pull-out chain which passes around the chain sheaves and connects with the vane by an arm which gives good leverage for pulling the windmill out of the wind.

THE GOVERNING DEVICE used on the Improved Kenwood Windmills is one of the most simple and effective ever attached to a windmill. It has a long tension spring which is abundantly strong to handle the vane, yet not so stiff but what the wheel

can be pulled out of the wind easily. One of the greatest faults with most windmills is, that when the wheel is pulled out of the wind the vane comes against the bumper (which is usually placed close to the vane), with such force that it bends or strains the vane, and with such windmills, in case of heavy storms the vane will bend, and be blown into the wheel, wrecking the entire windmill. Again, on the average windmill when the vane is freed, so as to throw the wheel into the wind, the vane goes back with such force as to strain the entire windmill.

THE IMPROVED KENWOOD WINDMILLS are provided with a bumper rod which is hinged to the main frame of the windmill and connected to the lower vane arm at a considerable distance from the vane hinge. This bumper rod is provided with stops and compression springs both inside and outside of the bracket which connects the bumper rod to the lower vane arm and as these stops are properly adjusted, there is no jar or strain whatever, either in pulling the wheel out of the wind or letting it back into the wind, neither can the vane be blown into the wind wheel. The governing device is clearly shown in illustrations Nos. 2, 3 and 4.

THE BRAKE of the Improved Kenwood Windmill works against the inner surface of the large wind wheel spider. It is adjustable and very effective, holding the wind wheel perfectly still when the wheel is pulled out of the wind, and is operated by the action of pulling the wheel out of the wind.

THE WIND WHEEL sections, arms and braces and the complete vane are galvanized after completion. The motor and its parts and all castings and similar parts are nicely painted, so that the complete windmill is finished in a workmanlike manner.

We do not claim that the Improved Kenwood Windmills and Towers are the heaviest windmills and towers made, but we do claim that they are the best proportioned and most substantial windmills and towers on the market at the present time, and we uphold this claim fully by the guarantee under which we sell them. A heavy mass of cast iron and steel does not make a windmill, nor do a few heavy steel bars make a tower, but a sufficient amount of iron and steel properly formed, proportioned and distributed can be made into a thoroughly effective and substantial windmill, and angle steel of proper proportions when properly put together and

braced will make an exceedingly strong and handsome tower, and this is the way Improved Kenwood Windmills and Towers are designed and made.

Illustration No. 8

Illustration No. 7 shows the main frame casting of the Improved Kenwood Pumping Windmills It shows the long double babbitted bearing for the main shaft with the large oil cup on its top. This frame is simple, strong and very easily replaced in case of accident. It is secured to the heavy channel steel pivot bar by strong set screws

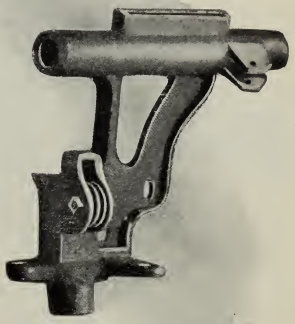


Illustration No. 7

Illustration No. 8 shows the adjustable shaft box which carries the large pumping gear shaft. It has a double babbitted bearing with oil chamber in center and oil cup on top This shaft box is bolted securely to the side of the main frame with heavy bolts which pass through slotted holes and it is adjusted and held in perfect alignment by a set screw under the end next to the gear.

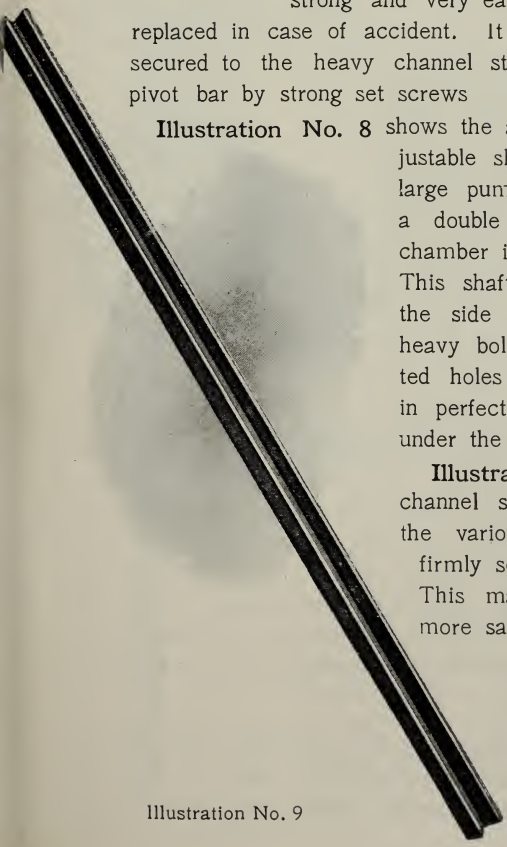


Illustration No. 9

Illustration No. 9 shows the heavy channel steel pivot bar upon which the various parts of the mill are firmly secured by heavy set screws. This makes a much better and more satisfactory turning post than the gas pipe which is cast into the main frame of the ordinary windmill, because it is stronger, and as it is not a fixed part of the main frame, should an accident

occur, it makes it much easier and less expensive to repair the mill, in fact, it allows one to put the windmill together piece by piece, on top of the tower, or to take it down in the same manner

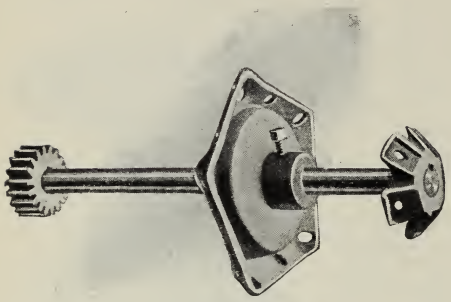


Illustration No. 10

Illustration No. 10 shows the main shaft with the driving pinion, large and small wheel spiders attached All sizes appear about the same, except that the shafts vary in size and length, the pinions vary in size and the spiders vary in size number of wheel arm seats

Illustration No. 11 shows the large pumping gear and the three holes in which the wrist pin may be fastened to obtain the different lengths of pump stroke.

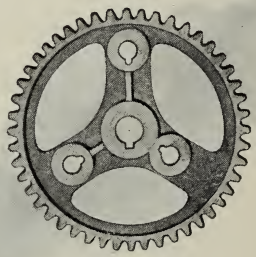


Illustration No. 11

Illustration No. 12 shows the connecting rod which transmits the power and motion from the wrist pin of the main gear to the head of the pitman rod, each end of the rod being provided with a large oil cup.

Illustration No. 13 shows the pitman head and pitman rod. The pitman head is a long casting, having an oil cup around its top and bearings its full length. It is guided in its movement by the channel steel pivot bar. The steel pitman rod is secured to the under side of the pitman head, and works up and down within the channel steel pivot bar, being guided at the lower end of the pivot bar by the pivot bar end collar, below which it connects with the pump pole swivel joint.

Illustration No. 12

Illustration No. 14 shows the brake mechanism which consists of a flat steel spring bar, a chain sheave and pocket, an adjustable con-

Illustration No. 13

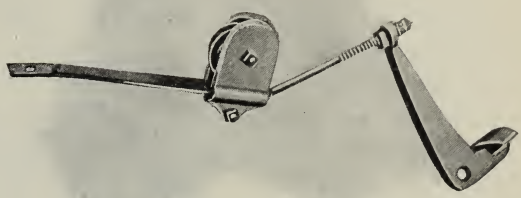


Illustration No. 14

necting rod and a combined brake and lever. The steel spring bar bolts to the main frame casting, and the brake lever pivots on the main frame casting just back of the large wheel spider. The pull out chain passes over the sheave which is in the main frame, thence around the sheave at the end of the spring bar, then back to where it connects with the vane. The action of pulling the wheel out of the wind operates and sets the brake and the desired tension may be obtained by shortening or lengthening the adjustable connecting rod

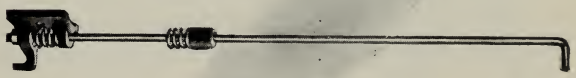


Illustration No. 15

Illustrations Nos. 15 and 16 show the governor of the Improved Kenwood Windmill, which is absolutely the best and most perfect windmill governor made. It consists of a heavy bumper rod or bar and a long and strong adjustable tension coil spring. One end of the bumper rod is hinged to an arm on the main frame casting, the other end passing

through a bracket on the under side of the lower vane bar at a considerable distance from the vane hinge and being provided with stops and compression springs both inside and outside of the vane arm bracket, so that all jar and strain is taken off the vane both in pulling the wheel out of the wind or letting it into the wind. One end of the governor spring is attached to the outer end of the bumper rod, the other end being secured to a bracket at the inner end of the lower vane bar, where a long eye bolt provides for ample adjustment of the tension spring. This governing device and the construction of our vane makes it impossible for the strongest wind to blow the vane into the windwheel and in this respect the Improved Kenwood Windmills are far superior to the great majority of windmills.

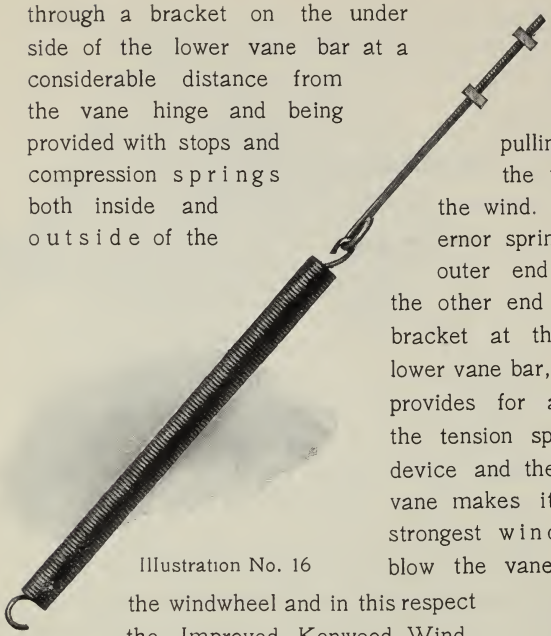


Illustration No. 16

Illustration No. 17 shows the pump pole swivel joint which connects the steel pitman rod with the wood pump pole. The pull-out wire which connects the pull-out chain and lever, passes through a guiding hole in the pivot bar end collar (this hole being separate from the one which guides the pitman rod), and then through the center of this swivel joint, thus preventing the wire from

Illustration No. 17

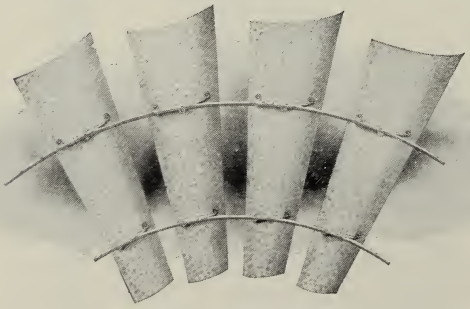


Illustration No. 18

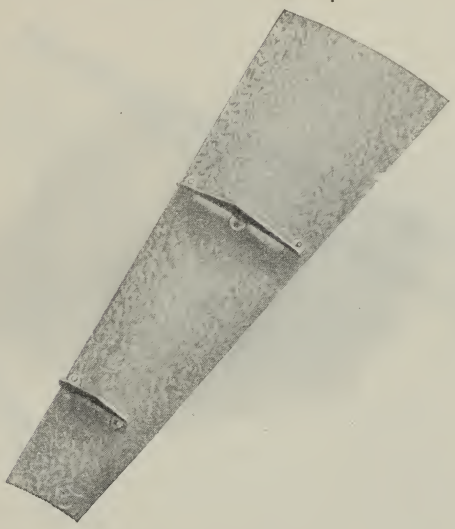


Illustration No. 19

Illustration No. 19 shows a single sail with the circle brackets attached. These sails are proportioned to the size of wheel for which they are made, and their angle and curvature is carefully designed so as to obtain the most power from the wind.

Illustration No. 20 shows the wheel arm of the 6-foot and 8-foot windmills these being the same except in length.

Illustration No. 21 shows the wheel arm of the 10-foot windmill.

Illustration No. 22 shows the wheel arm of the 12-foot pumping and 12-foot power windmills. Kindly note the manner in which the legs of the various wheel arms are spread and braced and also remember that aside from being exceedingly well braced they are set tangent so as to make them rigid and very strong.

Illustration No. 23 shows the style becoming wound around the pump pole when the windmill turns to the wind.

Illustration No. 18 shows a section of the windwheel which consists of four sails attached to the inner and outer circle irons. All wheel sections have four sails each but are of different size for different mills.

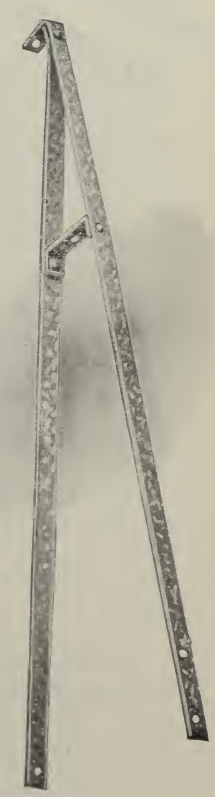


Illustration No. 20

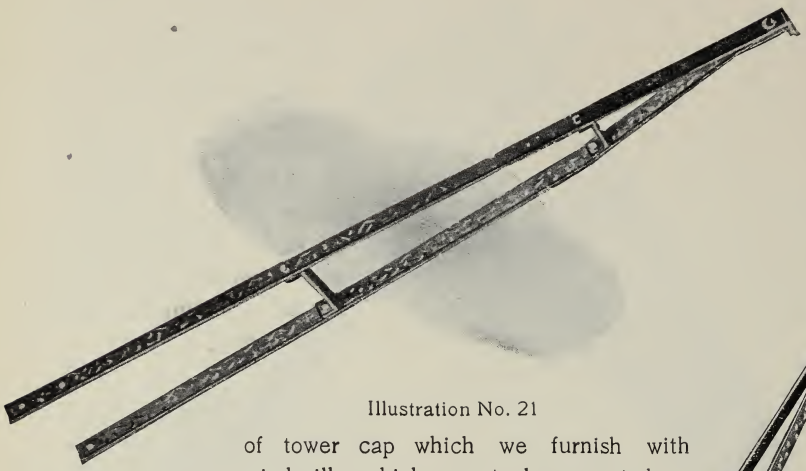


Illustration No. 21

of tower cap which we furnish with windmills which are to be mounted on wood towers. This cap sets on top of the tower posts and is held in place by ribs on its under side and a coach screw in each corner. It is suitable for any style of wood tower made with corner posts and can be made to fit a two mast tower by filling between the masts at the top and leaving a hole in the center for the pivot bar of the windmill.

Illustration No. 24 shows the style of step box or lower guide for pivot bar furnished with windmills for wood towers.

Illustration No. 25 shows the style of tower cap which we furnish with windmills which are to be mounted on four post angle

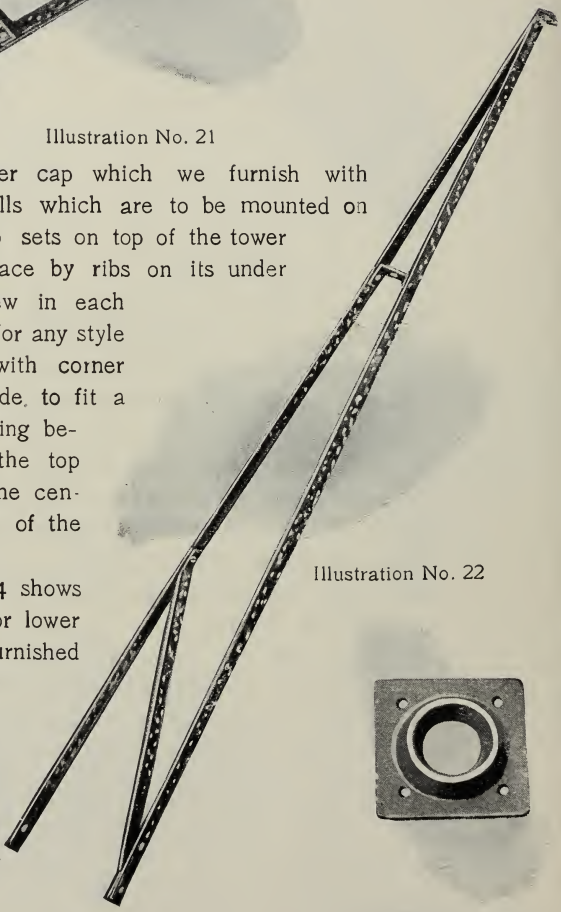


Illustration No. 22

Illustration No. 23

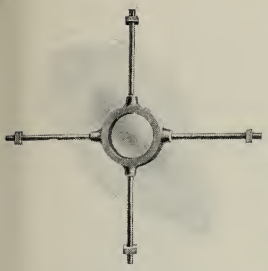


Illustration No. 24

steel towers. These caps can be fitted by purchaser to any four post angle steel tower, though in some cases it may be necessary to drill new bolt holes in the tower posts, or cut off the tops of the posts

Illustration No. 26 shows the style of step box or lower guide for pivot bar furnished with windmills for four post angle steel towers.

NOTE: When windmills are ordered which are to be mounted on a single wood mast, in place of the tower cap and step box, we furnish them with a mast cap and step box which bolt onto one side of the mast, but it is necessary that you state the size of your mast so that we can send bolts of the proper length.

We can also furnish our windmills with tower cap and step box for a three post angle steel tower, but customer may have to fit his tower to and drill new holes for these fittings.

All of our tower caps and mast caps have concave seats to fit the ball joint on which our windmills turn and which makes our windmills respond so quickly and turn so easily in the very lightest breeze.

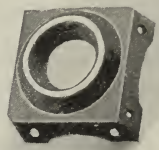


Illustration No. 25

Illustration No. 27 shows the style of pull-out lever which we furnish with windmills for wood towers and masts. This lever has a threaded eye bolt with which to adjust the pull-out wire.

Illustration No. 26

Illustration No. 27

Illustration No. 28 shows the style of pull-out lever which we furnish with windmills for angle steel towers.

Illustration No. 28

It is moved up or down on the corner post to adjust the pull-out wire. These levers are much better than the wood levers ordinarily furnished, and being adjustable they are even more desirable and convenient than a windlass or other similar device.

PRICES FOR IMPROVED KENWOOD GALVANIZED STEEL PUMPING WINDMILLS.

The windmill which we advertise at $11.95 is our No. 32N1400, 6-foot Pumping Windmill, price $11.95, and is a size which will be found very desirable and serviceable for use in pumping water at an elevation of 100 feet or less, provided you use a pump cylinder of proper dimensions.

Pumping windmills are complete with wind wheel, assembled motor, vane, pump pole swivel, pump connection, step box, adjustable pull-out lever and sufficient wood pump pole and galvanized steel pull-out wire for a tower 40 feet in height. In other words, the pumping windmill complete but without a tower.

When a pumping windmill is ordered without a steel tower, it is regularly furnished with a flat cap to set on top of the posts of a wood tower, but instead of a wood tower cap, if so ordered, we will furnish a cap for a four-post steel tower, or a cap for a three-post steel tower or a set of mast castings.

When ordering a windmill to go on a wood mast, always give size of mast, and when ordering a windmill without a steel tower, be sure to state the height of tower or mast on which you will erect the windmill. Shipped knocked down from factory in Southwestern Michigan.

No. 32N1400 6-foot Pumping Windmill. Weight, 275 pounds. Price **$11.95**

No. 32N1401 8-foot Pumping Windmill. Weight, 330 pounds. Price **14.95**

No. 32N1402 10-foot Pumping Windmill. Weight, 360 pounds. Price **18.45**

No. 32N1403 12-foot Pumping Windmill. Weight, 550 pounds. Price **29.95**

IMPROVED KENWOOD GALVANIZED STEEL HIGH GEARED POWER WINDMILLS.

THE ASSEMBLED MOTOR of our 12-foot Improved Kenwood High Geared Power Windmill is plainly shown in illustrations Nos. 29 and 30. Illustration No. 29 shows the left side of the motor. illustration No. 30 the right side of the motor, the latter also showing the appearance of the back of the mill and giving a clear idea of the gearing and the manner in which the power is transmitted to the vertical shafting.

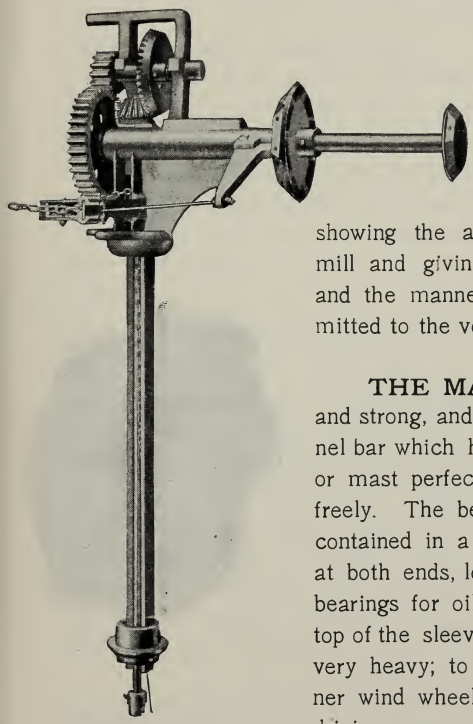


Illustration No. 29

THE MAIN CASTING is very heavy and strong, and is secured to a long heavy channel bar which holds the windmill on the tower or mast perfectly plumb and allows it to turn freely. The bearings for the main shaft are contained in a long sleeve which is babbitted at both ends, leaving a space between the two bearings for oil and having a large oil cup on top of the sleeve. The main shaft is long and very heavy; to it are secured the outer and inner wind wheel spiders and the large spur or driving gear of the mill; the large spur gear and the large wind wheel spider acting as collars and preventing end play of the shaft. The small spur gear and the large bevel gear are supported by a shaft which runs in two bearings, one between the small spur gear and the large bevel gear and the other back of the large bevel gear. The large bevel gear in turn transmits the power to the vertical shaft through the bevel pinion which is secured to the upper end of the vertical shaft, the vertical shaft having a long babbitted bearing directly under and close to the bevel pinion.

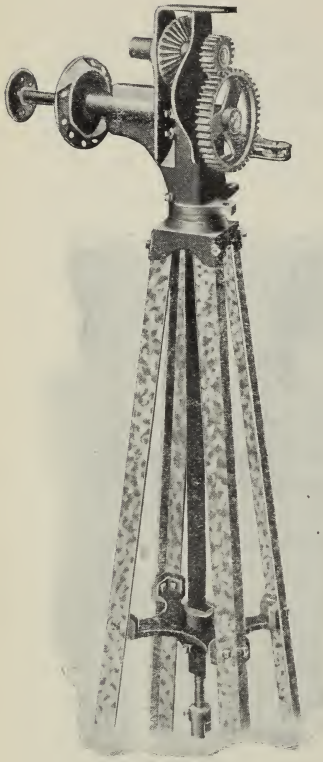


Illustration No. 30

In all other respects, that is, the wind wheel, the vane, the governing device, the pivot surfaces, the brake, etc., our power windmill is practically constructed the same as our pumping windmills.

FOR LIGHT FARM WORK, the utility of the steel power windmill as an economical and satisfactory motive power is recognized and acknowledged in every community in which such windmills have been used, but there is a limit both ways to this economy, and our experience has taught us that the 12-foot power windmill is the only desirable size

Therefore, we now sell but one size of power windmill, namely, the 12-foot size, and in every case where a customer desires greater power, we advise him to purchase a gasoline engine or some other similar motive power, because we consider his interests, and know that a gasoline engine, costing but little, if any more, than a large power windmill, will give him better results and be far more satisfactory.

THE IMPROVED KENWOOD POWER WINDMILLS are geared up 5½ to 1, that is, the vertical shaft of the windmill makes 5½ revolutions to every revolution of the wind wheel This gives the vertical shaft from 350 to 450 revolutions per minute, depending upon the velocity of the wind. By means of shafting, foot gear and pulleys, power can be transmitted to various machines such as feed cutters, wood saws, corn shellers, churns, pump jacks, etc.

THE POWER DEVELOPED by power windmills depends very much upon the velocity of the wind. The design of our Improved Kenwood Power Windmill is such that you can obtain from the force of the wind the greatest possible amount of power, and in

winds that vary from ten to forty miles an hour, it will develop from one to four horse power; the average winds which are utilized resulting in about two and one-half horse power. We however, wish it distinctly understood that we guarantee that our Improved Kenwood Power Windmill will develop, under like conditions and with the same velocity of wind, as much or more power than any other windmill of the same diameter.

THE PRINCIPAL PARTS of our 12-foot power windmill are almost identical with similar parts of our 12-foot pumping windmill, and the special parts are very plainly shown in illustrations Nos. 29 and 30, therefore we do not deem it necessary to illustrate these parts separately. Will say, however, that especial care is taken in the construction of our power windmills in design, material and workmanship, with a view to making them strong, serviceable and powerful.

Price for Our Improved Kenwood Galvanized Steel Power Windmill.

A power windmill is complete with wind wheel, assembled motor, vane, vertical shafting extending five feet below the turn table, step box, adjustable pull-out lever and sufficient galvanized wire pull-out cable for a 40-foot tower. In other words, the power windmill complete, but without a tower.

A foot gear and a certain amount of vertical shafting (depending upon the height of tower or mast), are always necessary items which must be ordered with a power windmill, and nearly always you will require ten feet or more of line shafting. These items are described and priced on other pages of this catalogue and are **not** included in the price of the windmill, but must be ordered separately.

When a power windmill is ordered without a tower, it is regularly furnished with fittings for a wood mast, but instead of the fittings for a wood mast, if so ordered, we will furnish a flat cap to set on top of the posts of a wood tower, or a cap for a four-post steel tower or cap for a three-post steel tower.

When ordering a windmill to go on a wood mast always give size of mast, and when ordering a windmill without a steel tower, be sure to state the height of tower or mast on which you will erect the windmill. Shipped knocked down from factory in Southwestern Michigan,

No. 32N1406 12-foot Power Windmill. Weight, 620 pounds.
Price..... $31.25

IMPROVED KENWOOD GALVANIZED ANGLE STEEL FOUR-POST TOWERS

Our Improved Kenwood Angle Steel Four Post Towers are absolutely the best, strongest and most substantial towers which can be made. Our experience in the windmill business has enabled us to make certain improvements in the construction and bracing of windmill towers which not only adds to the strength of the towers but also to the convenience of handling and erecting same.

CONSTRUCTION OF IMPROVED KENWOOD TOWERS

We have adopted 10-foot corner posts in the construction of our towers; first, because towers having joints every 10 feet are stronger and stiffer than those having joints 20 feet apart; second, because it enables us to strengthen our towers materially from the top to the bottom; third, because it makes it unnecessary to handle long heavy pieces of steel and also prevents a great deal of loss in transit, which occurs in the handling of long material and which cannot be loaded into short cars, it being a

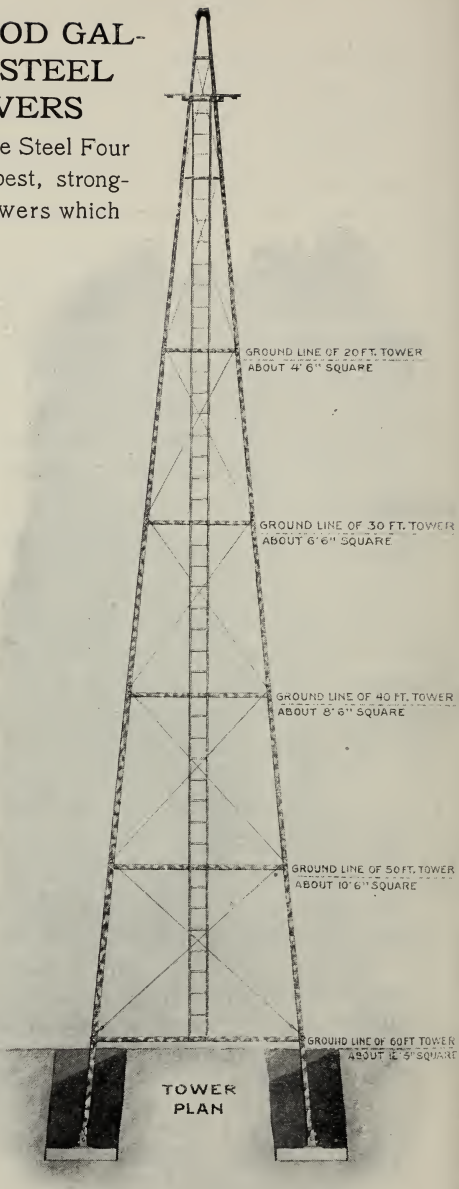

GROUND LINE OF 20 FT. TOWER
ABOUT 4' 6" SQUARE
GROUND LINE OF 30 FT. TOWER
ABOUT 6' 6" SQUARE
GROUND LINE OF 40 FT. TOWER
ABOUT 8' 6" SQUARE
GROUND LINE OF 50 FT. TOWER
ABOUT 10' 6" SQUARE
GROUND LINE OF 60 FT. TOWER
ABOUT 12' 6" SQUARE
TOWER
PLAN

Illustration No. 31

well known fact that where there is long material which cannot be loaded in short cars, the smaller parts are sent forward and the longer parts are left to follow by another train and are frequently lost by this splitting up of the shipment.

Illustration No. 31 shows the plan of our towers and aside from showing the corner posts, cross girts, brace rods, ladder, anchor posts and platform, it also gives approximate measurements at the base of towers of different heights. The cross girts above the platform add materially to the strength of the tower, and these girts are not used by many other tower makers.

For the top corner posts we use angle steel of ample strength for this part of the tower, and as the tower increases in height we use heavier angle steel, and by so doing build a tower which increases in strength as it increases in height. Each section of the corner posts is securely bolted together by steel bolts of ample strength. The upper 10-foot section of the tower is provided with two or more complete sets of cross girts, as may be required, and with one complete set of brace rods. Each succeeding section of the tower is provided with one complete set of cross girts and one complete set of brace rods, therefore, at the base of every one of our towers, next to the ground, there is a complete set of cross girts, bracing the tower firmly and making it rigid.

Another feature in the construction of these towers is the use of diagonal cross rods for the purpose of bracing the tower from corner to corner, so that the tower cannot twist or be warped by the wind.

The platform furnished with our towers is very large and strong and the ladder leading to the platform is a regulation ladder, made with angle steel sides and steel steps and bolted securely to the cross girts, making a ladder, which is safe and easy to climb.

Our method of tightening the brace rods is superior to that used by any other company, every brace rod being tightened equally and an equal strain being put on to each rod.

The brace rods of our towers are not reduced in size by having threads cut upon them, but the full strength of the material is left in the rod end to end, and, as before mentioned, there are **eight of these brace rods to every 10-foot section of the tower.**

The materials used in the construction of the Improved Kenwood Towers are of the best that can be obtained. For the corner posts and cross girts we use the best quality of angle steel, with a fillet or round corner where the two legs of the angles meet on the inner side.

Illustration No. 32 shows the lower 10 feet of one of our regular pumping windmill towers. The special purpose of this illustration is to show the thoroughness of the bracing employed in our towers. As will be seen, the cross girts are secured to the corner posts by one set of the bolts which bolt the corner posts together, and the last set of cross girts is at the joint close to the ground, where the corner posts bolt to the anchor posts. This illustration also shows the pull-out lever which is described in connection with illustration No. 28. It shows the four corner posts of the tower, the set of cross girts and brace rods and the ladder belonging to this section of the tower, also the set of cross girts, diagonal cross rods and the pump pole guide, belonging to the next upper section of the tower

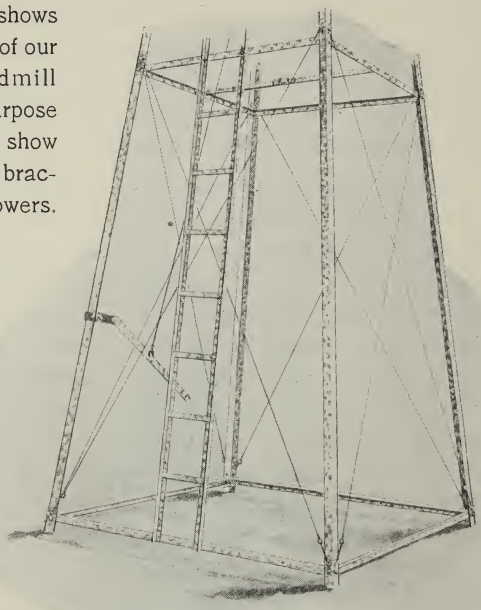


Illustration No. 32

Improved Kenwood Towers are galvanized after completion, that is, every piece of the tower is cut, punched and finished before the different parts are galvanized, therefore, these towers are far superior to the ordinary tower, the parts of which are galvanized before they are cut or punched. Another thing, to which we particularly desire

to call our customers' attention, is the fact that all brace rods and diagonal brace rods are galvanized, whereas those of many other towers are simply painted. We do not galvanize our bolts but dip them. If we were to galvanize them, the threads would have to be re-cut and they would then not be as good as dipped bolts. All cast iron parts of the tower, also the platform, are nicely painted, therefore the entire tower is finished in a perfect manner.

Illustration No. 33 shows a section of one corner of our towers, illustrating the manner of bolting the corner posts together, bolting the cross girts and brace rods to the corner posts, and showing the oblong holes which allows the tightening of the brace rods. This illustration in connection with illustration No. 32 cannot help but convince you that our towers are strong, well braced and easily put together.

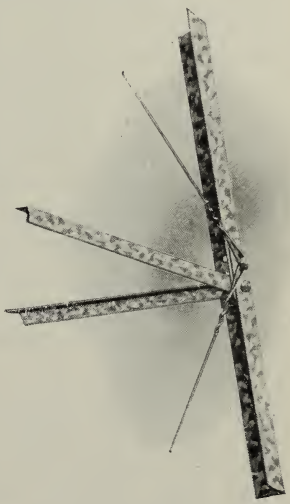


Illustration No. 33

Illustration No. 34 shows one of the anchor posts of our towers. These posts are five feet long, being from six inches to a foot longer than those usually furnished, and instead of supplying the bottom of our anchor posts with a small casting which forms no base whatever, and which is usually riveted to the bottom of the anchor posts with small rivets, each anchor post for all of our towers is furnished with a large cast iron plate and the anchor posts are bolted to these plates with four heavy steel bolts, giving as substantial a fastening at the anchor plates as is provided at the joints of the corner posts. This anchor plate is shown in the illustration, and we particularly ask our customers to compare the anchorage of our towers with those of any other make.

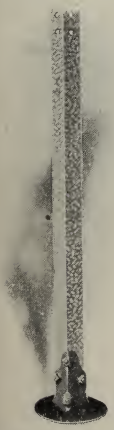


Illustration No. 34

The pull-out lever which is used to pull the windmill out of the wind is always a part of the windmill, but when the windmill is furnished with one of our steel towers, the pull-out lever which is supplied clamps to one of the corner posts of the tower

and is adjustable, so that it is an easy matter to move this lever up and down to give proper tension on the pull-out wire.

Towers for pumping windmills are supplied with pump pole guides, and towers for power windmills are supplied with supports for the vertical shaft boxes. Our towers are made in different weights to suit the size of the windmill which is to be erected upon them. They are also made in three classes, that is, regular towers for pumping windmills, not suitable for supporting tanks in the towers, regular towers for power windmills, not suitable for supporting tanks in the tower, and suburban outfit towers for either 6-foot, 8-foot or 10-foot pumping windmills, especially designed for supporting tower tanks described in connection with such towers.

We advise our customers in ordering a windmill to include with their order an order for a steel tower to match. While our windmills are adapted for and thousands of them are erected on wood towers or wood masts, our prices for steel towers are so extremely low that a steel tower, considering the fact that it will outlast any make of wooden tower, is really cheaper than a wooden tower.

When deciding upon the height of tower to order, be sure to select one high enough. The bottom of the wheel should be at least ten feet above any obstruction which is within a quarter of a mile of the windmill, provided it is possible to elevate the windmill to this height. Sometimes, of course, this cannot be done. It may be found necessary to erect the windmill near the foot of a hill or in a place where it would be impossible to elevate to a point above obstructions which might be on one side of the windmill. In such case select the height of tower which will give you proper results from the directions in which you can utilize the wind, and do not expect to operate the windmill when the wind comes from the direction of the hill or other obstruction.

PRICES FOR IMPROVED KENWOOD GALVANIZED ANGLE STEEL FOUR-POST TOWERS

Please note that different sizes of windmills require different strength of towers, and that we list towers of different weights and strength for different sizes of windmills. When ordering a tower,

order by the catalogue number to the left of the height of tower and allow the price shown to the right of the height of tower in the column which indicates the size and kind of windmill with which the tower is to be used. We will not ship out a windmill and tower unless the tower ordered is the tower specified by us for use with the size of windmill selected, or is heavier than the tower specified by us.

Regular towers are made to support the windmill only and will not support a tank in the tower.

Suburban outfit towers are made to support a tank in the tower and also to support a windmill at the top of the tower. These towers are made of very much heavier angle steel than is used in regular towers up to the point where the bottom of the tank is supported. Above this point the corner posts are the same as corresponding sections of the regular towers. The bottom of the tank is supported by heavy steel bars which take the place of that particular set of cross girts, and which are firmly secured to the corner posts by very heavy bolts and on which you lay timbers for the tank to rest on. Otherwise the construction of suburban outfit towers is the same as the construction of regular towers.

Suburban outfit towers for supporting an 11-barrel tank are made to support the tank at 20 feet from the top of the tower to the bottom of the tank. Those for supporting a 27-barrel tank are made to support the tank at 30 feet from the top of the tower to the bottom of the tank.

The prices on towers are for the towers complete including a wood platform, four anchor posts and four heavy cast iron anchor plates, in other words the tower complete, but without a windmill. Shipped knocked down from factory in Southwestern Michigan.

Prices for Improved Kenwood Regular Galvanized Angle Steel Four-Post Towers

For 6-foot, 8-foot and 10-foot Pumping Windmills.

CATALOGUE NUMBER	HEIGHT OF TOWER	FOR 6-FOOT PUMPING WINDMILL		FOR 8 OR 10-FOOT PUMPING WINDMILL	
		WEIGHT	PRICE	WEIGHT	PRICE
32N1420	20 feet	320 lbs.	$12.85	350 lbs.	$13.80
32N1421	30 feet	475 lbs.	17.45	500 lbs.	18.40
32N1422	40 feet	620 lbs.	21.25	650 lbs.	22.20
32N1423	50 feet	790 lbs.	29.25	825 lbs.	30.20
32N1424	60 feet	1010 lbs.	35.85	1050 lbs	36.80

Prices for Improved Kenwood Regular Galvanized Angle Steel Four-Post Towers

For 12-foot Pumping and 12-foot Power Windmills.

CATALOGUE NUMBER	HEIGHT OF TOWER	FOR 12-FOOT PUMPING WINDMILL		FOR 12-FOOT POWER WINDMILL	
		WEIGHT	PRICE	WEIGHT	PRICE
32N1425	20 feet	500 lbs.	$20.25	525 lbs.	$20.70
32N1426	30 feet	640 lbs.	26.45	675 lbs.	27.40
32N1427	40 feet	840 lbs.	34.55	875 lbs.	35.70
32N1428	50 feet	1100 lbs.	42.55	1140 lbs.	44.10
32N1429	60 feet	1375 lbs.	54.15	1425 lbs.	55.70

Prices for Improved Kenwood Suburban Outfit, Galvanized Angle Steel Four-Post Towers

For 6-foot, 8-foot and 10-foot Pumping Windmills.

CATALOGUE NUMBER	HEIGHT OF TOWER	FOR 11-BARREL TOWER TANK		FOR 27-BARREL TOWER TANK	
		WEIGHT	PRICE	WEIGHT	PRICE
32N1430	40 feet	850 lbs.	$34.25	.....	.....
32N1431	50 feet	1000 lbs.	40.35	1250 lbs.	$50.30
32N1432	60 feet	1150 lbs.	46.35	1650 lbs.	66.20

OUR THIRTY DAYS' FREE TRIAL OFFER

Under which condition we send any windmill to any address on our regular terms, giving the buyer the privilege of giving the windmill a thirty days' trial on his own ground, with the option to return it to us if not satisfactory in every way (we to return his money), makes the buyer perfectly secure.

ABOUT THE WINDMILL AGENT

There are windmill agents who make their living by selling windmills on easy payment terms and at extremely long profits, both to the manufacturer, wholesaler, and the agent who comes to your door. He will tell you all about the good qualities of his windmill, he will have little if anything to say in favor of the other man's windmill, and when you tell him you can buy a 40-foot Steel Tower and an 8-foot Steel Windmill, a complete galvanized outfit for $37.15, when he has probably asked you $60.00 to $80.00, he will tell you it is an impossibility; he may tell you the tower is worthless and the windmill worse than that, if possible. We know he says many unkind things about us, and, unfortunately, as we are

not on the ground, we are not there to defend our case. We have decided to say nothing in attempt to make any response to this long priced agent, but let the buyer decide for himself. It is for this reason that we answer all his arguments by saying we will send any windmill to any address, to be tried thirty days, with the privilege of returning, the money to be refunded. If after the windmill is up and tested, any agent or any set of agents can convince the buyer that we are wrong and the agent is right, it is the privilege of the buyer to return the windmill to us, all at our expense, his money to be immediately refunded.

At our special prices, prices as shown in detail on the pages of this catalogue, prices based on the actual cost of material and labor, on our thirty days' free trial offer and our binding one year guarantee, on our reputation as the largest dealers in general merchandise in the world, selling direct to the consumer, on our financial responsibility, with a capital and surplus of over Two Million Dollars, to make good our every promise, representation and guarantee, we earnestly speak for your trade.

For further details and general description of all our pumping and power windmills, we refer you to other pages of this catalogue.

OUR ONE YEAR BINDING GUARANTEE

One of the strongest guarantees issued with any windmill, insures the buyer as to the durability of the windmill, and removes any possible chance of risk. We cannot afford to sell you a windmill that isn't exactly right. We have a reputation established in every section of the country, so valuable to us that we of all houses could not afford to send out a windmill or tower that was defective or weak in any piece or part. Our windmills have been put to every possible test, every point has been carefully studied, the weak points of other windmills have been made strong and the objectionable features in many windmills have been removed. We did not go into the windmill business on this extensive scale until we had overcome every difficulty and placed ourselves in a position to offer a strictly high grade all steel windmill and steel tower at prices so far below any competitor, that we feel that every farmer needing a windmill pumping outfit should place his order in our hands.

PUMPING WINDMILL OUTFITS

A pumping windmill outfit consists of a windmill alone to go on a wood tower or a windmill and whatever height of regular steel tower you may require, or a windmill, a suburban outfit steel tower of the height which may be required and a steel tapered tower tank.

HOW IMPROVED KENWOOD GALVANIZED STEEL BACK-GEARED PUMPING WINDMILLS CAN BE USED

The windmill and tower may be set directly over the well, so that the pump will be in the center of the tower, or the tower can be set close to the spring or other water supply, the pump set so as to be operated direct by the windmill and the water drawn by suction from the water supply, provided the water supply is not more than twenty feet below the pump cylinder.

Where it is not possible to set the tower and windmill over the well, and the distance is great between the windmill and the water supply, it is always better to place the pump directly over the water supply, and to operate it by means of quadrant levers, or if the distance is not over sixteen feet, you can use a pair of rocker arms.

HOW TO SELECT A PUMPING WINDMILL

The lift or elevation of water means the total height the water is raised from the lowest level of the water in the well, no matter whether the pipe is in the well only or carried to a tank above the ground. Each 100 feet of horizontal pipe or each elbow in the pipe should be counted as equal to a lift of about 2½ feet. We recommend the following selection of pumping windmills and pump cylinders for the lifts mentioned: If the lift is less, and you wish to use the mill for irrigation purposes, the size of cylinder can be increased proportionately, up to a 4-inch cylinder with a 6-foot windmill, a 6-inch cylinder with an 8-foot windmill, an 8-inch cylinder with a 10-foot windmill, and a 10-inch cylinder with a 12 foot windmill to lift water ten feet or less. Smaller cylinders than we mention can be used if desired.

For 50-foot lift: Use a 6-foot mill with 2½-inch cylinder, or an 8-foot mill with a 3-inch cylinder, or a 10-foot mill with a 4-inch cylinder, or a 12-foot mill with a 6-inch cylinder.

For 75-foot lift: Use a 6-foot mill with a 2¼-inch cylinder, or an 8-foot mill with a 2¾-inch cylinder, or a 10-foot mill with a 3½-inch cylinder, or a 12-foot mill with a 5-inch cylinder.

For 100-foot lift: Use a 6-foot mill with a 2-inch cylinder, or an 8-foot mill with a 2½-inch cylinder, or a 10-foot mill with a 3¼-inch cylinder, or a 12-foot mill with a 4½-inch cylinder.

For 125-foot lift: Use an 8-foot mill with a 2¼-inch cylinder, or a 10-foot mill with a 3-inch cylinder, or a 12-foot mill with a 4-inch cylinder.

For 150-foot lift: Use an 8-foot mill with a 2-inch cylinder, or a 10-foot mill with a 2¾-inch cylinder, or a 12-foot mill with a 3¾-inch cylinder.

For 200-foot lift: Use a 10-foot mill with a 2½-inch cylinder, or a 12-foot mill with a 3¼-inch cylinder.

For 250-foot lift: Use a 10-foot mill with a 2¼-inch cylinder, or a 12-foot mill with a 2¾-inch cylinder.

For 300-foot lift: Use a 10-foot mill with a 2-inch cylinder, or a 12-foot mill with a 2½-inch cylinder.

Capacity of windmills vary under different conditions, and the above table shows a very conservative estimate of the size of cylinders which should be used, but, whatever variations there may be, we guarantee that the Improved Kenwood Pumping Windmills will lift as much water under equal conditions as any windmill of corresponding size, and that they will operate in much lighter winds than most other windmills.

For elevating water over 100 feet the work is too heavy and the strain too great for ordinary cylinders and small pipe. Deep well cylinders should be used for greater depth and in such cases whenever possible you should use pipe larger than the cylinder.

For general work do not select a cylinder larger than those recommended for 50-foot elevation. Cylinders larger than 4 inches cannot be used with ordinary pumps. 5-inch, 6-inch, 8-inch and 10-inch cylinders are used for irrigation purposes or in shallow wells only, and require special piping and fittings above the cylinders.

ILLUSTRATION No. 35

Showing our No. 32N1452 Regular Pumping Windmill Outfit, price, $37.15, consisting of an 8-foot Improved Kenwood Galvanized Steel Pumping Windmill and a 40-foot Improved Kenwood Galvanized Steel Regular Pumping Windmill Tower. The best height of tower under ordinary conditions. Price does not include pump or tank.

IMPROVED KENWOOD GALVANIZED STEEL REGULAR PUMPING WINDMILL OUTFITS

FROM $24.80 TO $84.10

A regular pumping windmill outfit consists of a complete galvanized steel pumping windmill and a complete galvanized steel regular pumping windmill tower.

OUR ADVERTISED OUTFIT AT $24.80

The regular pumping windmill outfit which we advertise at $24.80 is our No. 32N1450, and consists of a 6-foot pumping windmill and a 20 foot regular pumping windmill tower. This makes a very desirable outfit when the lay of the land is such that a 20-foot tower is high enough to give the windmill the full benefit of the wind.

OTHER REGULAR PUMPING WINDMILL OUTFITS

FOR PRICES SEE PAGE 43

We can furnish either 6-foot, 8-foot, 10-foot or 12-foot pumping windmill with either 20-foot, 30-foot, 40 foot, 50 foot or 60-foot towers. Before selecting a pumping windmill or a tower see our advice about how to select pumping windmills and the height of tower which should be used, which will be found on pages 38, 39 and 42, then remember that it is always best to be on the safe side, that is to select a windmill which will pump even more water than you require and a tower which will elevate the windmill even higher than is absolutely necessary, because greater capacity in the windmill than you absolutely require not only insures an abundant supply of water but it adds to the life of the windmill itself, while a tower which is of good height not only places the windmill where it will obtain the force of winds which would otherwise pass over the windmill, but a high tower is always safer than a low tower and will withstand much heavier storms.

Illustration No. 1 on page 2 shows an outfit consisting of an 8-foot pumping windmill and a 30-foot regular pumping windmill tower which is probably the most popular outfit in use, and while we advise the selection of 40-foot, 50-foot, and even 60-foot towers in some

localities, there are probably more 30-foot towers in use than all other towers combined, and this tower is usually high enough.

However, the tower should always be high enough to bring the windmill well up above the tops of trees or other obstructions, like buildings, etc., so as to give the windmill the full and unbroken force of the wind. The bottom of the wheel should be at least ten feet above any obstruction which is within a quarter of a mile of the windmill, provided it is possible to elevate the windmill to this height. Sometimes, of course, this cannot be done. It may be found necessary to erect the windmill near the foot of a hill or in a place where it would be impossible to elevate to a point above obstructions which might be on one side of the windmill. In such case, select the height of tower which will give you proper results from the directions in which you can utilize the wind, and do not expect to operate the windmill when the wind comes from the direction of the hill or other obstruction. On prairie land, as, for instance, through Kansas, Nebraska, Colorado, New Mexico, North and South Dakota and parts of Minnesota, the 20-foot and 30-foot towers are very popular and answer every purpose of a higher or more expensive tower, but when there are trees, buildings, hills or other obstructions the 40-foot, 50-foot or 60-foot towers will be found the best and most satisfactory.

Illustration No. 35 shows an outfit which is really one of the best outfits for ordinary use. It consists of an 8-foot pumping windmill and a 40-foot regular pumping windmill tower. A tower which is usually high enough for all practical purposes, unless there be trees or high buildings in the vicinity of the windmill.

From these illustrations you get a very good idea of the general appearance, outline and proportions of our regular steel pumping windmill towers and steel pumping windmills. From the various illustrations and detailed descriptions on the pages of this catalogue you can get almost as good a knowledge of the mechanical construction and excellence of the Improved Kenwood Windmills and Towers as you could if you were to personally examine them.

Our windmills and towers are now used in almost every county in every state in the Union. They have been placed side by side in competition with almost every other steel and wood windmill and steel tower made, and from everywhere we have received the most flattering

reports as to their simplicity, durability, strength and the general satisfaction they have given.

The details of construction of windmill and tower, including all the parts that go to make up this complete machine, are fully illustrated and carefully described on the pages of this catalogue.

Read the catalogue carefully and you will clearly understand the mechanical construction of both windmill and tower, and by comparison with the description of any other windmill and tower, you will readily see wherein the Improved Kenwood is the equal of any, and in many ways the superior of every all steel pumping windmill and tower made.

COMPLETE WINDMILL OUTFITS

For the convenience of our customers who desire to order complete windmill outfits, aside from listing the windmills and towers separately, we list them in combination, as shown in the following tables. These prices however are for the windmill and tower complete, but do not include pump, pipe, tanks or other accessories.

Prices for Complete Regular Pumping Windmill Outfits

A complete regular pumping windmill outfit consists of a galvanized steel pumping windmill complete and a regular galvanized steel four-post tower complete, each tower being the style and weight especially designed for the windmill which it is to support. When ordering a regular pumping windmill outfit, order by the catalogue number to the left of the height of tower and allow the price shown to the right of the height of tower in the column which indicates the size of the windmill. Shipped knocked down from factory in Southwestern Michigan.

CATALOGUE NUMBER	HEIGHT OF TOWER	SIZE OF WINDMILLS AND PRICE OF COMPLETE WINDMILL AND TOWER.			
		6-FOOT	8-FOOT	10-FOOT	12-FOOT
32N1450	20 ft.	$24.80	$28.75	$32.25	$50.20
32N1451	30 ft.	29.40	33.35	36.85	56.40
32N1452	40 ft.	33.20	37.15	40.65	64.50
32N1453	50 ft.	41.20	45.15	48.65	72.50
32N1454	60 ft.	47.80	51.75	55.25	84.10

ILLUSTRATION No. 36

OUR IMPROVED KENWOOD GALVANIZED STEEL 12-FOOT PUMPING OR IRRIGATION WINDMILL

On preceding page, in illustration No. 36, we show our extra heavy 12-foot Galvanized Steel Pumping Windmill, mounted on a 40-foot Galvanized Steel Regular Pumping Windmill Tower, as it would appear when arranged to pump water into a reservoir for irrigation purposes. There are many places where a 6-foot, 8-foot or 10-foot pumping windmill will not pump a sufficient amount of water to supply the requirements. To meet this proposition, we are prepared to furnish a 12-foot pumping windmill, an extra large and very strong machine; a windmill which will pump a large volume of water, either for supply purposes or for irrigation purposes. This windmill is particularly adapted to large farms, to stock ranches, to irrigation plants and to village water supply. It is an exceedingly powerful machine and though but one and one-half times as large in diameter as an 8-foot windmill, it will elevate nearly three times as much water. For irrigation purposes, a 12-foot Improved Kenwood Steel Pumping Windmill is better adapted than any other size of windmill, because of its great strength and its substantial character and because it will pump a very large volume of water. It would be a difficult matter in a catalogue of this character, to give any practical suggestions as to the manner of arranging an irrigation plant. We, however, have had our artist show in the preceding sketch some ideas which may be found applicable to your own particular case.

We are prepared to furnish the necessary machinery for the installation of irrigation plants; that is the windmill, the tower, the irrigation cylinder and the discharge pipe above the cylinder, which pipe may be wrought iron or galvanized steel, as the special requirements of the case may demand. The installation of a complete irrigation plant is of itself not a difficult matter. Anyone desiring to provide such a plant, must, of course, be

governed entirely by the conditions of his own particular case. First, what is wanted, is an abundant supply of water. Then the windmill, windmill tower and the pumping apparatus. The making of the reservoir and the canals or ditches leading from the reservoir to the grounds which you wish to irrigate is a simple matter.

While we show in the illustration a 12-foot windmill, it is very often the case that a smaller windmill will answer all requirements. In fact, a 10-foot pumping windmill is frequently used for irrigation purposes.

You can select the cylinder and piping for an irrigation plant from the pump supply section of this catalogue. If you decide to use regular iron pipe, use the size specified for the cylinder selected. If galvanized steel pipe is used, we recommend that the pipe be the same size as the cylinder. You will require at least two feet more pipe than the distance from the top of the cylinder to the point of discharge (three feet would be better), one tee to form the discharge opening, and unless a wooden trough will answer, you will also need a sufficient amount of pipe to convey the water from the upright pipe to the reservoir. We recommend that you use our standard wrought iron pipe because it is more rigid than steel pipe, and at the end will really prove more serviceable and cost less money.

On other pages of this catalogue we give a full detailed description of the construction of the Improved Kenwood Windmills and Towers and also give the prices of the windmills and towers alone and of complete windmill outfits.

ENTIRELY SATISFACTORY.

Rapid City, So. Dak.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—Mr. B. S. Jurgenson requests us to say, that the windmill you sold him is entirely satisfactory; he has it set up and it works like a charm.

Yours very truly, JOHN C. HAINES.

STOOD THE STORM WHEN MOST OTHER WINDMILLS BLEW DOWN.

Eckley, Colo.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: The windmill I ordered from you last April is entirely satisfactory and exactly as represented and I am sure that I saved money by ordering from you. In August we had a wind storm here that blew most of the windmills to pieces, but mine stood the storm without a scratch. I am well pleased with the windmill also with Sears, Roebuck & Co. Yours, etc.,

G. M. HUDDLESTON.

ILLUSTRATION No. 37

Showing our No. 32N1456 Suburban Pumping Windmill Outfit, price, $67.35, consisting of an 8-foot Improved Kenwood Galvanized Steel Pumping Windmill, a 50 foot Improved Kenwood Suburban Outfit Tower, and an 11-barrel Galvanized Steel Tapered Tower Tank. A most desirable outfit for a small private water supply. Price does not include pump, piping, stock tank, conical cover for tower tank or supporting timbers under the tower tank.

IMPROVED KENWOOD GALVANIZED STEEL SUBURBAN PUMPING WINDMILL OUTFITS

FROM $58.25 TO $103.55

The Suburban Pumping Windmill Outfit which is shown in illustration No. 37, shows clearly the appearance of all Improved Kenwood Suburban Pumping Windmill Outfits, whether they be with 6-foot, 8-foot or 10-foot pumping windmills, or with 40-foot, 50 foot or 60-foot towers. The tank shown in the illustration, as will be seen is placed at a point twenty feet from the top of the tower to the bottom of the tank. This is the position at which all 11-barrel tanks are placed in the Improved Kenwood Towers. Consequently, in a 40-foot tower, it elevates the tank twenty feet from the ground to the bottom of the tank. In a 50-foot tower it elevates the tank thirty feet from the ground to the bottom of the tank. In a 60-foot tower it elevates the tank forty feet from the ground to the bottom of the tank.

At our prices we provide you with a complete Suburban Pumping Windmill Outfit for less money than would be charged you by a dealer for an ordinary windmill and tower of the same height.

Remember that Suburban Pumping Windmill Towers are specially designed; they are much stronger than ordinary towers. The towers are heavier; they are specially designed for the purpose of carrying, in addition to the windmill and weight of tower, the great weight of the tank filled with water. Therefore, in comparing our prices for a Suburban Pumping Windmill Outfit with the dealer's price for a regular outfit, bear this in mind and then you will realize what a bargain we offer you. For general purposes we advise the purchase of an outfit of the dimensions shown in the illustration. This, because it gives you a windmill of large capacity, and because it elevates your water supply high enough to give great force in the distribution of the water.

We also make Suburban Pumping Windmill Outfits using a 27-barrel tapered tower tank and with either 50-foot or 60-foot towers. In

these outfits the towers are much heavier than the towers made to support the 11-barrel tanks. In Suburban Pumping Windmill Outfits, supplied with 27-barrel tanks, the bottom of the tank is at a point thirty feet from the top of the tower. Therefore, in a 50-foot tower the bottom of the tank would be elevated twenty feet above the ground, and in a 60-foot tower the bottom of the tank would be elevated thirty feet above the ground. Of course, the height of tower which you will require with a Suburban Pumping Windmill Outfit depends upon two points: First, how high you must have the tower in order to elevate the windmill so that it will obtain the full force of the wind, and next, how high you must have the tower in order to elevate your tank so as to get proper force in the distribution of the water.

With a Suburban Pumping Windmill Outfit using a 27-barrel tank, we advise the purchase of a 60-foot tower, because this elevates the tank thirty feet above the ground and gives a splendid force to the water. We do not make this outfit with less than a 50-foot tower.

These outfits can be furnished with either 6-foot, 8-foot or 10-foot pumping windmills, and with either 11-barrel or 27-barrel galvanized steel tapered tower tanks.

At our prices we practically furnish you a complete city water system. That is, we furnish you the windmill for pumping the water, the tank, as a reservoir for holding the water, and the tower for carrying the windmill and supporting the reservoir at such height as will give your water force, which, by means of pipes, you can convey wherever you like. Of course, the pump and piping is extra and must be selected to meet the special requirements of your case. With such an outfit you can pipe the water into any part of your house, barn or other buildings, and your house can be piped for a water supply exactly the same as in any city. Again, with this tank reservoir, you can pipe water to your pasture, your barn, or to almost every part of your farm. At a nominal expense and with little additional cost for piping, you practically have every advantage of the most perfect water system.

AS A FIRE PROTECTION

As a fire protection our Suburban Pumping Windmill Outfit is especially recommended. At a little additional expense for an

extra strength tower and a tank, you have all the advantages of the ordinary pumping windmill, and you always have this reservoir of water of from eleven to twenty-seven barrels, according to size ordered, which is not only a great convenience in conveying water about your place, but it is always a big protection against fire. Should fire occur in any of your buildings, if you will provide yourself with sufficient hose to connect to your nearest water pipe, you can easily and readily reach the fire and extinguish it. No farmer with valuable buildings can really afford to be without a reservoir of water as a fire protection, to say nothing of the great convenience and great labor saving advantages, and our Suburban Pumping Windmill Outfits afford the most convenient and inexpensive means of supplying yourself with this ever ready supply of water.

AN IDEAL SUBURBAN OUTFIT

To people residing in suburban towns outside of large cities, and outside the regular city water supply, and to people residing in inland towns and villages which are not equipped with a water supply, we especially recommend our Suburban Pumping Windmill Outfits. Many of these people have been accustomed to the comforts of a city water system, whereby a supply of water is supplied by the city, and conveyed by piping throughout the home and extending into the lawn and the garden.

Our Suburban Pumping Windmill Outfit supplies all these at a very nominal expense. At a cost of $58.25 for our smallest complete outfit, upwards, according to size, you have a permanent water supply, you have every advantage given you by a city water system. If you are building a home in a suburban town outside of the city water limits, if you are building a home in a town or village not equipped with a city water system, or if you al ready own a home in one of these places and are not provided with the comforts of a perfect water system, and with the insurance against fire that a water system always affords, we urge that you consider one of our complete Suburban Pumping Windmill Outfits.

To florists, to market gardeners, to all those who appreciate the privilege of beautifying the lawn and landscape by an abundant

supply of fresh water all of which from our Suburban Pumping Windmill Outfit is easily conveyed by means of pipe and hose, for all those, these outfits are especially recommended.

HEIGHT OF TOWER TO ORDER

In deciding on the height of tower, size of tank, and size of windmill, the following should be considered:

Water pressure necessary and the probable amount of water you will require. The tank platform or bottom of tank is twenty feet below the top of the tower for a 11-barrel tank, and thirty feet below the top of the tower for a 27-barrel tank.

The bottom of the tank should be higher than the highest point you wish to convey the water, either in your house, barn or surroundings.

For Example: First consider where you are going to place the tower, then consider the highest point to which you wish to convey water. If you wish a water tank in the top of the barn or attic of the house, or on a raise of ground, in pasture, yard or elsewhere, or you wish to convey the water by means of pipe, hose or otherwise to garden, lawn or elsewhere, bear in mind that the tower should be sufficiently high so that the bottom of the tank will be as high or higher than the highest point to which you wish to convey the water. A tank in the attic of the house or the upper floor of the barn should be no higher than to the bottom of the tank in your tower. The higher the reservoir and tank stands above the point to which you wish to convey the water, the greater will be the water pressure, and in no case can water be conveyed from this tank reservoir to a point higher than the bottom of the tank.

SIZE OF MILL

The tower, of course, should be high enough, regardless of height of tank or water pressure, to bring the windmill above the top of any buildings, trees or other surroundings, to give it full effect of the wind, and on the amount of water supply and the depth of water required will depend whether you should have a 6-foot, 8-foot or 10-foot windmill.

U. OF ILL. LIB.

WATER SUPPLY OUTFIT

For Pipe, Hose, Tanks, Pumps, etc., for such supplies as are necessary for the conveying, storing, tanking and handling of water from one of our tank outfits, see our special prices on these goods.

The full-page illustration No. 37 shows our 8-foot Improved Kenwood Windmill, 50-foot Suburban Outfit Tower and 11-barrel Tapered Tank, gives you an idea of the general appearance of the outfit, and how it is utilized for pumping, storing and conveying of water supply.

In this case the tank is erected on a platform, the base of which is 20 feet from the top of the tower and 30 feet from the ground. With the reservoir in this position, the water can be conveyed by pipe or hose to any point in any building or on any ground, provided such point is not more than thirty feet higher than the ground base of the tower. In this case, the windmill is shown as being used for pumping water into the tower tank and also into a trough at the base of the tower. Water is conveyed by a pipe across the road, as indicated by dotted line, to the house. In the attic of the house is a house tank which can always be kept full of water, and from this tank, the house being piped as for city, water is supplied with ample pressure, the same as any city supply. Just before you reach the house, as indicated by a dotted line, is a running fountain, also supplied from the tank reservoir. Hose connections can be placed at different points, and by attaching hose one can water the lawn, wash the windows and porches and have an ever-ready fire extinguisher, with an abundant water supply. Follow the dotted line to the left and you follow a water pipe leading to the barn. In the barn is a large storage tank, always full of a fresh supply of water for the watering of stock. From the barn (by a pipe), the water is carried back to a pasture which has a stock tank, from which tank the stock in the pasture get their supply of fresh water, as carried from the tank. From the storage tank a pipe runs to the vegetable garden to the left of the barn, and through this pipe an abundant supply of water is always at hand, for the supplying of water for the vegetable garden in dry or droughty periods.

The luxury of one of our Suburban Pumping Windmill Outfits can only be appreciated by those who have used them and others who

have had the advantages of a perfect city water system. The advantage that we claim for our tank outfit, however, is that the cost of water is not 10 per cent that charged by cities for no better supply.

The picture as shown in illustration No. 37, will give you a fine idea of the general appearance of the windmill, tank and tower. The windmill being a regular windmill, by following the smaller and sectional illustrations and descriptions through this book, you get a very good idea of the construction of the Improved Kenwood Galvanized Steel Windmills, and by following the small illustrations and detailed descriptions you also get a good idea of the construction of our steel towers, the highest grade towers on the market.

We feel in directing you to a Suburban Pumping Windmill Tower as against an ordinary steel tower, that the Suburban Outfit Tower gives you all the advantages of an ordinary tower, and with a tank for water reservoir you have additional advantages to well repay you for the comparatively slight difference in cost.

Whether on a farm, in a suburban town, in town or village; whether a gardener, a florist, wherever you may be located, if you have any use for an abundant water supply; any use for the best pumping outfit constructed; if you would like any further information before ordering; if you have been made any kind of a proposition by any other maker, agent or dealer, do not fail to write us before buying. While our prices are our lowest possible prices, prices based on the actual cost of material and labor, with but our one small percentage of profit added, and about one-half the price charged by dealers generally, while our prices (quality for quality), are much lower than you can possibly get elsewhere, such prices as were never before offered by any maker, if there is any information concerning windmills, towers, tanks, their operation, construction, handling; if there is anything that you are not clear on, write us, and we will be pleased to inform you whether you buy from us or not.

Prices for Complete Suburban Pumping Windmill Outfits

A complete Suburban Pumping Windmill Outfit consists of a galvanized steel pumping windmill, a galvanized steel suburban outfit four-post tower, and a No. 20 gauge galvanized steel tapered tower tank, but does not include a tank cover or the timbers for the

platform under the tank. When ordering a Suburban Pumping Windmill Outfit, order by the catalogue number to the left of the height of tower, and allow the price shown to the right of the height of tower in the column which indicates the size of the windmill, and under the size of tank which you desire. Shipped knocked down from factory in Southwestern Michigan.

CATALOGUE NUMBER	HEIGHT OF TOWER	SIZE OF WINDMILLS AND TANKS AND PRICE OF COMPLETE WINDMILL, TOWER AND TANK		
		6-FOOT	8-FOOT	10-FOOT
		WITH 11-BARREL TANK		
32N1455	40 feet	$58.25	$61.25	$64.75
32N1456	50 feet	64.35	67.35	70.85
32N1457	60 feet	70.35	73.35	76.85
		WITH 27-BARREL TANK		
32N1458	50 feet	$81.15	$ 84.15	$ 87.65
32N1459	60 feet	97.05	100.05	103.55

SAVED $25.00. NO FEAR OF HIGH WINDS.

Fillmore, New York.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: It is fourteen months since I erected my galvanized windmill. Can say it is all you represent it to be. It has proven satisfactory in every respect. Said windmill runs in as light a wind as any windmill I ever saw. In high wind I have no fear of my pump being broken, as the windmill is well regulated. Consider I saved $25.00 on windmill and tower, as it is a windmill of superior make and work to windmills commonly erected in this vicinity. Thanking you for past favors, I remain, Yours truly, EVERETT L. REDMAN.

PUMPS IN A VERY LIGHT WIND.

Prescott, Arkansas.

Messrs, Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: The windmill is perfectly satisfactory, and it is all you claim it to be. I think I saved money by ordering it from you. It raises the water 100 feet and will pump in a very light wind, which is of great importance in this locality. There is only one other windmill in this locality and it has proved to be a complete failure on account of light winds, but it is not one of your windmills. Hoping this one may be the cause of your selling many in this locality, I remain,

Yours very truly,

A. W. NEWTH.

WELL PLEASED.

Belleville N. C.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: The windmill which I bought of you for Governor Russell's plantation has proved very satisfactory. It has been in use about nine months now and has given no trouble. We are much gratified with its quality and working ability in light winds. Respectfully,

E. W. SAWYER.

POWER WINDMILL OUTFITS

That much of the vertical shafting which is included with the windmill, extends downward five feet below the turntable. When ordering a power windmill, first decide how high you will erect it and how high above the ground you want the horizontal shaft of the foot gear, then remember that aside from the windmill itself, you will require an amount of vertical shafting to connect the windmill with the foot gear equal to the elevation of the windmill less the sum of the lengths of the vertical shaft on the windmill and foot gear (which is 6½ feet) and the height at which you desire to have the horizontal shaft of the foot gear above the ground or floor.

You will also require a foot gear at the bottom of the vertical shafting and doubtless some line shafting and pulleys. If the windmill is to be erected on a steel tower, it will also be necessary that you order a tower.

HOW IMPROVED KENWOOD STEEL POWER WINDMILLS CAN BE PLACED

Our Improved Kenwood Power Windmills can be placed on a steel tower, on a wood tower, or, as is quite common, they may be placed on a single mast above the barn.

Power windmills can be used for running corn shellers, feed grinders, feed cutters, shredders, wood saws, churns, bone mills, and for numerous other purposes on the farm where from one to three-horse power are required, and power windmills are frequently used for running machinery in blacksmith and other small jobbbing shops.

IMPROVED KENWOOD POWER WINDMILLS CAN BE USED FOR PUMPING WATER AS WELL AS FOR RUNNING MACHINERY

This is accomplished by using a windmill pump jack, or you can use our Kenwood pump jack, which attaches direct to the pump standard. You can also use quadrant levers in connection with our windmill pump jack so as to connect with a pump at a considerable distance from the windmill.

On the following pages we show illustrations and give descriptions of power windmill outfits complete, for wood masts and complete with steel towers; and following the description of outfits with steel towers, we give prices for complete power windmill outfits.

ILLUSTRATION No. 38

IMPROVED KENWOOD GALVANIZED STEEL, 12-FOOT POWER WINDMILL, COMPLETE OUTFITS, FOR WOOD MASTS

FROM $41.60 TO $49.60

For $41.60 we can furnish you a complete Power Windmill Outfit, consisting of our 12-foot Improved Kenwood Galvanized Steel, Power Windmill, our Windmill Foot Gear, having an 18x6-inch pulley, 10 feet of line shafting and the necessary vertical shafting, with couplings and boxes, all ready to attach to a 20-foot wood mast, up to $49.60 for same style of outfit to attach to a 60-foot wood mast. These prices are such as cannot help but surprise you. They are less than half the price which a windmill agent would charge you for an outfit of the same description. We are enabled to make these prices only by having made an extensive contract under the most favorable conditions.

In illustration No. 38 we show the Improved Kenwood Power Windmill, as it appears when mounted on a wood mast over the barn, showing the manner of bracing the mast with our steel guy rods and how various machines may be driven by the power developed by the windmill. You will note that the line shafting is arranged in this case so that it projects outside of the barn for the purpose of driving a wood saw. This is one of the most common and most profitable uses to which a power windmill is put. It would be useless for us to go into any special detail in relation to the different machines which can be operated in connection with one of these windmills, or for us to attempt to tell you how to arrange the machines in your own barn. All kinds of machines can be run by the power developed by a power windmill, as well as in any other way, and in each particular case they must be arranged to suit the special conditions of the case.

We are prepared to furnish 12-foot Power Windmill Outfits of every description and every outfit which we advertise will be furnished at prices in line with those just mentioned. We have arranged the various outfits in combination and priced each of them separately, so that as soon as you have decided what size of windmill you want and to what height you wish to erect it, you can immediately tell precisely what the outfit will cost you, and it will not be necessary for you to go to the trouble of figuring up the separate items. We want to see an Improved Kenwood Power Windmill Outfit on every farm in the country which is not now supplied with a Power Windmill Outfit, and the prices which we make on these goods are so extremely favorable that no farmer, be he owner or tenant, can afford to be without one of these outfits

For prices see page 61.

ILLUSTRATION No. 39

IMPROVED KENWOOD GALVANIZED STEEL 12-FOOT POWER WINDMILL COMPLETE OUTFITS, WITH STEEL TOWERS

FROM $62.30 TO $105.30

Illustration No. 39 is a picture of the Improved Kenwood Power Windmill, as it appears when mounted on a 60-foot Improved Kenwood Tower. This picture shows plainly the general appearance of the windmill, and also shows very distinctly the construction of the tower, showing the cross girts, the cross rods running across the tower from corner post to corner post, the vertical shafting, the manner in which bearings are provided for the vertical shafting, the foot gear and how it can be attached, and many other points in connection with an outfit of this kind; as for instance, the manner of operating a pump by using our Windmill Pump Jack, and also the manner of extending line shafting from the foot gear into a barn or granary.

Of course we could not show in this picture many of the machines which can be driven by the power windmill, but it will be readily understood that almost any machine can be operated by the power developed by the Improved Kenwood Power Windmill. To show the wonderfully low prices which we are making and at which we can furnish complete Power Windmill Outfits, we have made up and listed simple Power Windmill Outfits, consisting of the windmill, the tower, the vertical shafting, the foot gear and 10 feet of line shafting. Power windmills are usually erected to a height of forty to sixty feet above the ground or above the barn floor, depending upon local conditions, such as height of buildings or height of trees in the immediate neighborhood of the windmill.

Assume that you wish to buy a Power Windmill Outfit and that it will be necessary for you to erect it forty feet high. At $81.30 we would furnish you our 12-foot Improved Kenwood Galvanized Steel Power Windmill, together with a 40-foot Improved Kenwood Galvanized Steel Tower, a foot gear, having 18x6-inch pulley, 10 feet of line shafting and the necessary vertical shafting all complete;

a price much lower than the ordinary windmill agent would charge you for the windmill alone.

The prices which we name on our Power Windmill Outfits, are offered on the basis of the actual cost of material and labor, with but our one small percentage of profit added; offered under our binding guarantee for one year, as the equal of any Power Windmill Outfit made, regardless of price.

You take no risk in ordering a Power Windmill Outfit from us on our extremely liberal 30 days' trial terms, as explained in this catalogue. You have the privilege of seeing, examining and comparing the windmill and the balance of the outfit, with any other outfit which you may be able to see and examine. You are allowed the privilege of thoroughly examining the windmill in every piece and part and then you also have the privilege of giving the windmill a 30 days' trial. If you find that we have misrepresented it in any way, or if for any reason you are dissatisfied with it, send the windmill back to us at our expense and we will immediately return your money, if any has been sent.

You cannot afford to be without a Power Windmill Outfit. There is much profitable work which you could do with an outfit of this kind, and, as the work would most of it be in the barn and under cover, it furnishes you employment for stormy days when you could not work outside; enables you to cut your feed and grind your grain, placing the product in the best condition for feeding purposes and really without cost to you, because, after your windmill is once erected, it costs you nothing for fuel and the wear and tear is so little, when the windmill is properly cared for, that it cannot be counted for anything.

In purchasing a Power Windmill Outfit, we advise that you make use of a steel tower, because the Improved Kenwood Galvanized Steel Towers cost but very little, if anything, more than wood towers; are much handsomer in appearance and very much more durable. In fact, an outfit including a steel tower, will in the end cost you but little if any more than an outfit which you would erect on a wood mast, because, when you count the cost of the wood mast, all the labor which you must go to in securing the mast to your barn, and such other expenses as may be incurred, you will find that to erect a windmill on a steel tower is, after all, the most economical way in which you can put up an outfit of this character.

PRICES FOR COMPLETE 12-FOOT POWER WINDMILL OUTFITS

A complete Power Windmill Outfit consists of a 12-foot galvanized steel power windmill complete, vertical shafting twelve feet less in length than the height of mast or tower on which the mill is to be erected, one foot gear with 18x6-inch pulley, and ten feet of line shafting. This constitutes an outfit to go on a wood mast or wood tower. If the windmill is ordered with a steel tower, the outfit is the same as above, with the addition of one regular galvanized steel four-post tower. The amount of vertical shafting furnished will place the horizontal shaft of the foot gear 5½ feet above the bottom of the mast or tower. If the windmill is to be erected on a wood mast, you can purchase from us a set of steel guy rods, which your blacksmith can lengthen or shorten. If they are not found to be of the proper length, or, in lieu of the guy rods, you can brace the mast with timbers.

When ordering a Power Windmill Outfit, order by the catalogue number to the left of the height of tower or mast, and allow the price shown to the right of the height of tower or mast in the column which indicates whether the windmill is to go on a wood mast or wood tower, or whether the outfit is to be furnishsd with a steel tower, and if for mast give size of mast. Shipped knocked down from factory in Southwestern Michigan.

CATALOGUE NUMBER	HEIGHT OF TOWER OR MAST	PRICE OF COMPLETE POWER WINDMILL OUTFITS, AS DESCRIBED ABOVE	
		FOR WOOD MAST OR WOOD TOWER	WITH STEEL TOWER
32N1470	20 feet	$41.60	$62.30
32N1471	30 feet	43.60	71.00
32N1472	40 feet	45.60	81.30
32N1473	50 feet	47.60	91.70
32N1474	60 feet	49.60	105.30

SATISFIED HE SAVED FROM $15.00 TO $20.00.

Clarington, Ohio.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: The windmill and grinder bought of you some time ago has proven itself to be all right in every respect and is doing splendid work. The price you ask for them is very reasonable. I am satisfied I saved at least $15.00 or $20.00 on the outfit.

Yours respectfully,

CHAS. E. BRENZIKOFER.

Attachments For Windmills

WE SHOW HEREWITH AND ARE PREPARED TO FURNISH A COMPLETE LINE OF ATTACHMENTS FOR WINDMILLS

WINDMILL FOOT GEAR

The Foot Gear is designed to transmit power from the vertical shafting of power windmills to a shaft which is horizontal. On the horizontal shaft of the foot gear we furnish a pulley 18 inches in diameter having a 6-inch face, and we also furnish a half coupling on each end of this shaft so that you can connect line shafting to either or both ends of the shaft.

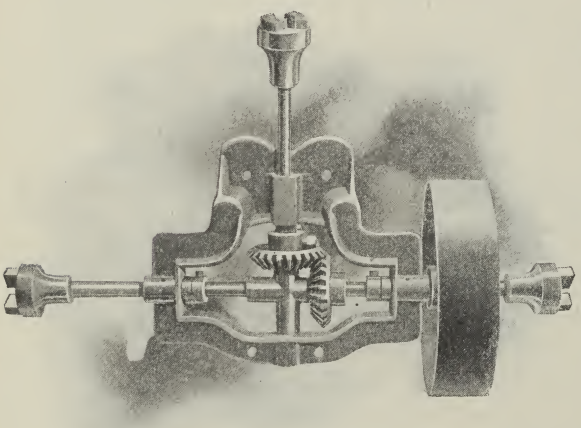


Illustration No. 40

Made in two styles. No. 1 being, as shown in illustration No. 40, to bolt to a post or mast. No. 2 being with a base to bolt onto a cross timber or to the floor Always state which style you want. No. 1 will be shipped unless you order No 2. Frame is a heavy casting with babbitted bearings for the two shafts. Vertical shaft is $\frac{7}{8}$-inch, and the line shaft 1-inch in diameter, each shaft extending about 18 inches from the center and each end being supplied with a half coupling so that additional line shafting can be connected to either side. Gears are miters, giving line shaft same speed as vertical shaft, and line shaft gear can be placed on either side so as to run line shaft in either direction desired. Pulley is 18 inches in diameter with 6-inch face Price includes bolts for attaching. Weight, 110 pounds. Shipped from factory in Southwestern Michigan.

No. 32N1482 Windmill Foot Gear. Price.....**$6.25**

WINDMILL PUMP JACK

To operate a pump with a power windmill it is necessary to use some kind of a device which will develop the proper speed and a reciprocative motion. In most cases the Pump Jack shown in illustration No. 41 will answer the purpose.

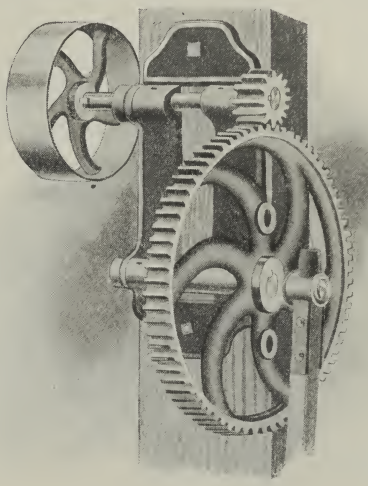


Illustration No. 41

It can be attached to a post or mast or to a horizontal timber. Is geared back 6¼ to 1, giving one up and down stroke of the pump rod to six and one-fourth revolutions of the driving shaft. Has three strokes, namely, 6-inch. 8-inch and 12-inch. Can be furnished in three ways, No. 1 being with 10-inch by 4-inch pulley as shown in illustration No. 41; No. 2 being with 8-inch No. 42 sprocket wheel; No. 3 being with shifting clutch coupling and shifting lever so as to connect to end of windmill line shafting. Always state which style you want. No. 1 will be sent unless you order the No. 2 or No. 3. If pump jack is ordered with pulley or sprocket wheel be sure to order pulley or sprocket wheel to go on windmill line shaft. Frame is a heavy casting with babbitted bearings for the two shafts. Main shaft is 1-inch diameter Can be used with gasoline engines, steam engines or horse powers. Price includes wrist pin and box, and bolts for attaching. Weight, 80 pounds. Shipped from factory in Southwestern Michigan

No. 32N1484 Windmill Pump Jack. Price..... $5.95

SAVED $10.00.

Little York, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: I received the windmill about one year ago from you all right, and put it up right away, it has given entire satisfaction, and I saved about $10.00 by buying from you instead of buying at home, I can recommend it to others, and the sewing machine I bought of you is all right too.

Yours truly, JOHN CAMPBELL.

SHAFTING, ETC., FOR POWER WINDMLLS

Shipped from Factory in Southwestern Michigan

No. 32N1492 ⅞-inch Vertical Shafting, complete with a half coupling on each end of each piece of shaft, babbitted bearings about six feet apart, and if for windmill mast, with coach screws for fastening to mast. Weight, 4 pounds per foot. Price, per foot **20c**

No. 32N1493 1-inch Line Shafting, complete with a half coupling for each end of each piece of shafting, babbitted bearings about six feet apart and coach screws for fastening the bearings to timber. Weight, 4½ pounds per foot. Price, per foot..... ..... **25c**

No. 32N1494 Shifting Clutch Coupling, for 1-inch line shafting, complete with shifting lever, one straight feather key and one taper key. Weight, 15 pounds. Price..... **$1.55**

No. 32N1495 Pulley, 8 inches in diameter with 4-inch face, bored for 1-inch line shafting; to drive pump jack. Weight, 8 pounds. Price..... **$1.17**

No. 32N1496 6-inch No. 42 Sprocket Wheel, bored for 1-inch line shafting; to drive pump jack. Weight, 6 pounds. Price **$1.20**

No. 32N1497 Set of four ½-inch Guy Rods, each 15 feet long, including turn buckles, two bolts to pass through the windmill mast and four bolts to secure the ends to the barn. Weight, 50 pounds. Price..... **$3.20**

RUNS EVERYTHING ON THE FARM.

Gridley, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—The 12-foot geared windmill which I bought of you last spring, is all right in every way. It has great power in a fair wind. I run the pump, butter churn, corn grinder, cider mill, grindstone, one-hole corn sheller, emery wheel, and a circular saw. I can run all these machines with that 12-foot wheel. In a good wind I can run half of these machines at one time. With my 12-foot wheel I mostly have too much power than not enough. I am well pleased with the windmill and it is a great piece of machinery. I can pump water with as little wind as anybody that has a pumping windmill. C. C. KRIEGHISER.

POWER WINDMILL OUTFIT GIVING THE BEST OF SATISFACTION.

Low Moor, Iowa.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—I wish to say that the 12-foot power windmill I bought of you was received in good order, has been erected and running three months and must say is giving the best of satisfaction. I am well pleased with it in every way. I saved from $8.00 to $20.00 on it as I priced windmills of other firms before buying of you. Hoping this will prove satisfactory, I am, Yours truly,

CHAS. HEALLESS.

JUST AS REPRESENTED.

Harris, Mo.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I am well pleased with my windmill. and find that it runs easier and more even than any I have ever seen, and that it is just as represented.

Yours respectfully, FRED JOHNSTON.

WINDMILL QUADRANT LEVERS

We can furnish you a pair of Windmill Quadrant Levers, as shown in illustration No. 42, which can be used in connection with pumping windmills to operate a pump which may be at a considerable distance from the windmill, or which may be used in connection with windmill pump jacks where pumps are operated by power windmills.

When used in connection with pumping windmills the two wires which connect the two Quadrant Levers must be crossed, so as to give an up stroke on the pump at the same time that the up

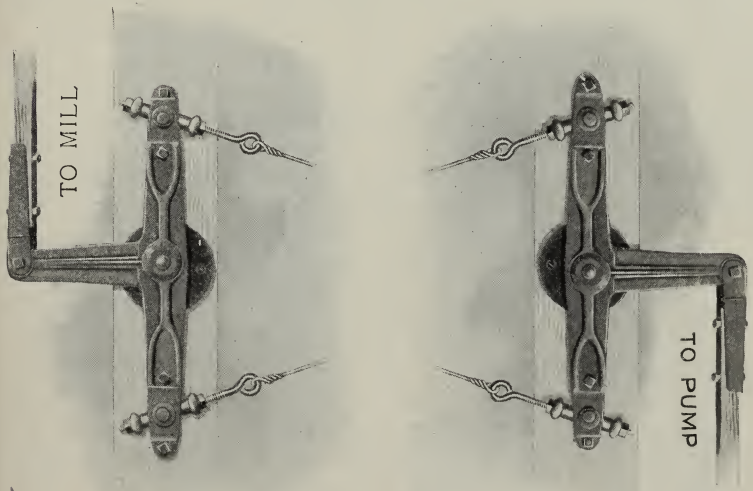


Illustration No. 42

stroke is being made by the windmill. When used in connection with power windmills, the wires may connect the levers without being crossed. The two levers are alike in form, and each is furnished with a pivot plate, the bolt which fastens them to the timber work, and eye bolts for the purpose of putting proper tension upon the connecting wires.

By means of these Quadrant Levers an ingenious person can make connections with the pump within any reasonable distance, and in almost any location, whether the pump is to be operated

by a pumping windmill or by a power windmill, frequently being able to make use of a windmill where it could not otherwise be used, and making it possible to set a power windmill in a much more desirable location in relation to machines to be operated by it. To connect the levers it requires ten feet more wire than twice the distance between the levers. Connecting wire is No. 9 galvanized annealed wire, ten feet weighing $\frac{5}{8}$ pound. Price is for one pair levers, complete with pivot plates and bolts and eight feet of wood pump pole. Weight, per set, 50 pounds. Shipped from factory in Southwestern Michigan.

No. 32N1488 Quadrant Levers. Price, per pair.....$2.90
No. 32N1489 Connecting Wire. Per ten feet ..... .04

WINDMILL ROCKER ARMS

In illustration No. 43, we show a pair of Rocker Arms and illustrate the manner in which these arms are connected to the rocker pipe.

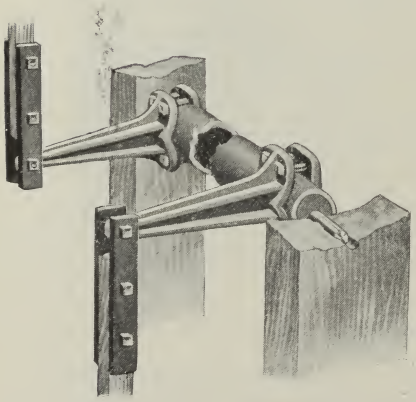


Illustration No. 43

Frequently it is impossible to set the windmill and tower directly over the well and in such cases, when the center of the well is within sixteen feet of the center of the tower, the pump pole of the windmill may be connected to the pump rod of the pump by means of rocker arms and pipe, giving even better results than quadrant levers. We recommend the use of Rocker Arms under these conditions.

One of these Rocker Arms connects with the windmill pump pole, the other to pole leading to pump, and both are to be securely fastened to heavy 2-inch black iron pipe. Price is for one pair of arms but does not include the pipe. Weight, 40 pounds Shipped from factory in Southwestern Michigan.

No. 32N1490 Rocker Arms. Price, per pair $2.00
No. 32N1491 Rocker Pipe, per foot, weight, $2\frac{3}{4}$ pounds ..... .13

OUR $2.98 PUMPING WINDMILL FEED GRINDER

Our $2 98 Pumping Windmill Feed Grinder, shown in illustration No. 44, is for use in connection with all kinds of pumping windmills, no matter what size or make. Will grind any kind of grain, either separate or mixed. Grinder consists of a double metal case and three burrs, two remaining stationary while the third revolves in the center, producing a double grinding surface and consequently feeding double capacity. Can be adjusted so as to grind either coarse or fine, by simply turning one nut. Capacity is from 1 to 4 bushels per day, depending upon the velocity of the wind and the size of the windmill. The center burr is operated with the lever which projects from the bottom of the grinder and is moved in opposite directions by the wood rod which connects the grinder to the elbow which connects with the pump pole of the windmill. Our price is about one-half the price others ask for this style of grinder, while the grinder is equal to any which you can buy elsewhere. If you have a pumping windmill or intend to buy one and have no power windmill, you certainly ought to purchase one of these little grinders.

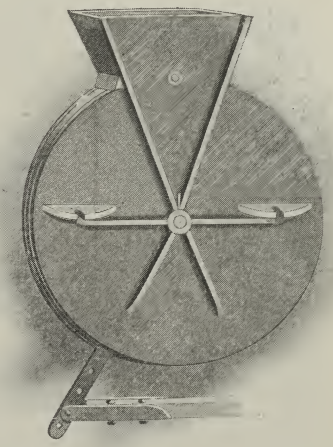


Illustration No. 44

Price is for the grinder as shown in the illustration, complete with the iron elbow to connect with the windmill pump rod, but does not include the wood connecting pole. Weight, 80 pounds. Shipped from factory in Western Ohio.

No. 32N1506 Pumping Windmill Grinder. Price.....$2.98
No 32N1507 Set of Burrs. Weight, 10 pounds..... .99

THINKS IT THE BEST WINDMILL MADE.

Sears, Roebuck & Co., Chicago, Ill. Bourbonnais, Ill.

Gentlemen: In regard to the windmill which I received from you: The windmill is entirely satisfactory, exactly as represented, and I think is the best windmill made, and if I should need another windmill I shall buy one like it, as I saved quite a bit of money in buying this windmill from you.

Yours truly, FREDERICK GROSS.

GALVANIZED STEEL TAPERED TOWER TANKS

Made of No. 20 gauge steel and to conform to the shape of our Windmill Suburban Outfit Towers.

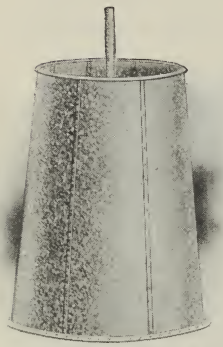


Illustration No. 45

The tanks shown in illustration No. 45 are much handsomer and more durable than wooden tanks. They are made in two sizes only and of the dimensions given below.

Price includes a 2-inch galvanized iron center pipe for the windmill pump rod to pass through, together with locknuts and leather washers for securing the pipe into the bottom of the tank. Can furnish conical covers for these tanks, but covers are extra. Always shipped set up unless otherwise ordered, but they can and will be shipped knocked down when so ordered. Shipped from factory in Southwestern Michigan.

Catalogue No.	Size No.	Height	Diameter		Capacity	Weight	Price
			Bottom	Top			
32N1515	T1	6 feet	3 ft. 9 in.	2 ft. 7 in.	11 bbls.	160 lbs.	$12.05
32N1516	T2	6 feet	5 ft. 6 in.	4 ft. 4 in.	27 bbls.	250 lbs.	18.90

No. 32N1517 Conical Cover for No. T1 tank. Weight, 25 pounds. Price, $2.25

No. 32N1518 Conical Cover for No. T2 tank. Weight, 40 pounds. Price, 2.85

For prices of No. 18 or No. 16 gauge steel tanks and for information pertaining to connections, etc., see general description of galvanized steel tanks, on page 85.

BOUGHT TWO WINDMILLS, SAVED $25.00 ON EACH.

London, Ohio.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—Last April I received from your house two windmills, towers and pumps, all complete. Everything was in good shape and went together without a hitch. They have both been doing good work ever since. They are good, well made, strong and neat windmills, and are first class in every particular and cost about $25.00 less per mill than they would have cost here, so that I saved about $50.00 in the deal with you. I recommend Sears, Roebuck & Co. to my neighbors, and have sent some trade to you. Last August I visited your house in Chicago and examined some of your goods, and I know you sell many things from 20% to 50% cheaper than retailers sell here.

Truly yours, W. H. JONES.

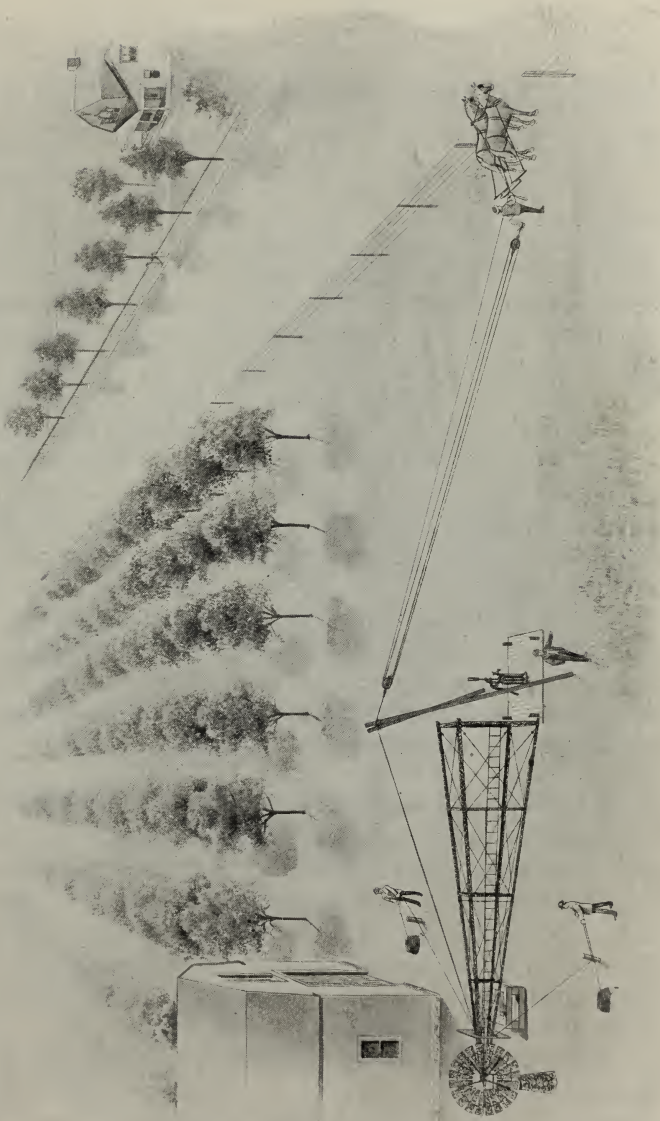


ILLUSTRATION No. 46

SOMETHING ABOUT THE MANNER OF ERECTING WINDMILL OUTFITS

In illustration No. 46 we show you how a windmill and tower should be put together, in what position it should be in relation to the anchor post holes, and, in fact, give you all the information which you will need, except such as will be obtained from our regular direction sheets. It is not a difficult matter to put up a steel windmill outfit. In fact, anyone who goes at the work intelligently and follows the directions which we furnish can put up the outfit without any trouble. All it requires is that you follow our instructions and that you use a little caution and good judgment. With every windmill and tower which we send out, we enclose in the box of fittings a direction sheet, which gives full instructions in relation to putting together and erecting the Improved Kenwood Steel Windmills and Angle Steel Towers; also instructions for erecting power windmills on wood masts.

The illustration shows the pump platform, it however is not the usual practice to lay the platform until after the tower is erected, because the anchor posts can not be set exact until the tower is up, therefore the post holes should be open to allow for moving and adjusting the posts to fit the tower.

TO RAISE A WINDMILL AND TOWER

There are many ways of raising a windmill and tower, and while our towers, being built in 10-foot sections, can be put together from the ground up and the windmill put in place after the tower is completed, the usual practice is to put the windmill and tower together as shown in the illustration and raise it with ropes and pulley blocks. These ropes and blocks are usually at hand on nearly every farm or in the immediate neighborhood.

The ropes needed are as follows: A main rope strong enough to support the tower and at least $1\frac{1}{2}$ times the length of the tower; a pair of pulley blocks with beckets, and a tackle rope of proper strength. For small and light towers the pulley blocks may be with two sheaves in each block, but for large and heavy towers they should have three sheaves in each block. When the blocks have two sheaves,

the tackle rope should be about $3\frac{3}{4}$ times the length of the tower; when they have three sheaves the tackle rope should be about 5 times the length of the tower. It is also necessary to have two strong guy ropes each about twice the length of the tower, and short ropes to fasten pulley block to pulling post, main rope to shear poles and for fastening shear poles together.

A shear pole or gin pole at least one-half the length of the tower is also necessary. This shear pole is made of two poles or timbers of sufficient strength to support the tower, the two being bolted or tied together near the top and spread apart at the lower ends so as to form a shear.

Place under the lower end of bottom corner posts a plank long enough to reach under both posts and strong enough to support the tower when it is raised. Be sure that this plank is level and firmly placed.

Back of this plank toward the anchor posts, stand edgewise a heavy plank to prevent the tower from slipping off the flat plank. Drive stakes on both sides so as to hold both planks in position. Near the other two corner posts place level with the first plank, two short strong planks to support the other two corner posts when tower is raised.

To prevent bottom corner posts and the side lower girts from buckling it is best to lash a timber to each of the bottom corner posts, next to the ground and to the inside corner of each side lower girt, the latter extending from corner post to corner post. These timbers for the smaller towers may be 2 inches by 4 inches, but for the large and heavy towers they should be at least 2 inches by 6 inches.

Tie the main rope around the tower at the upper set of cross girts and fasten the rope so that it cannot slip. Lay the main rope along the center of the tower on the upper side.

Lean the shear pole against the bottom girt which is on the upper side of the tower; pass the main rope over the top of the cross in the shear pole and tie it securely with a short rope. Tie the end of the main rope to one of the pulley blocks. Raise the shear pole until the lower ends are about opposite the center of the place where the tower is to stand, one leg on each side.

Pull out the tackle rope until the distance from center to center of pulley blocks is at least 10 feet more than one-half the length of

the tower. Now plant a strong post directly in line with the center of the tower and far enough from the tower so that the tackle rope can be pulled out straight. Secure the pulley block to this post with a strong rope.

Tie the guy ropes to the upper ends of the corner posts which are next the ground. At each side of the tower about two-thirds of its length from the bottom and about one-half its length each way from the tower, plant strong posts around which to take a hitch with the guy ropes so that the tower may be held steady while being raised and kept from going too far over when it has reached an upright position. One man will be required at each of these guy ropes, but in case of very high or very heavy towers there should be two men at each rope. Tower may be raised with a windlass or horses may be employed. If a windlass is used it should be firmly staked down; in fact, everything should be strong and firm when a tower is being raised, thus preventing the possibility of an accident.

Now raise the tower, bolt it to the anchor posts and shift it into position. It can be shifted easily by levers placed under the lower girts close up to the corner posts. With power mills be sure that the side of the tower is square with the direction in which you wish to run the line shafting. With pumping mills care should be taken that the pump rod of the mill is directly over the pump rod of the pump. Remember that the tower must stand plumb and the anchor posts must be firmly bedded. Fill the anchor post holes with stone or boulders and dirt, ramming it hard as the filling is being done.

ABOUT THE CARE OF WINDMILLS

Do not allow yourself to be misled by statements that windmills of any particular make will run and give good service without oil or attention. Our windmills require but little attention, but that attention they should have, as should any other windmill or machine of any kind, if long and satisfactory service is expected.

Remember, that any machinery, no matter for what purpose used, nor how well made, will wear out quickly or is liable to be broken if it does not receive proper care and attention and bearings are allowed to run dry, or if bolts are allowed to become loose, the

wearing parts are very liable to give out quickly or some part of the machine is very liable to be broken.

The boxes in which shafting revolves or runs, should be oiled with a good grade of running oil, such for instance as would be used on the bearings of a mower or reaper. Friction surfaces, such as the pivot post where the pitman head travels and the teeth of the gear wheels should always be kept well greased with a heavy grease such as is used on farm wagons.

All nuts and bolts should be examined occasionally and if they are found loose they should be tightened and this examination should be made first of all, within two or three weeks after the windmill outfit has been erected, because nuts become loose much more easily at first than they do after they have become fixed in place.

Most all breakage and all extraordinary wear results from neglect and unless proper attention is given to this advice, the purchaser certainly cannot expect to obtain long life and satisfactory service from a windmill or any other machine. With proper care our Improved Kenwood Windmill and Tower will last a life time.

EASY TO PUT UP.

Eldorado, Iowa.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sir:—The windmill arrived in good condition—not a part was missing. I put it together myself—had no experience in that line. The windmill has run to perfection to this day. By sending to you for it I think I have saved about $10.00.

Yours truly, C. G. TJENSVOLD.

SAVED $10.00.

Stetson, Maine.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: The windmill arrived November 1st. I am very well pleased with it. I saved $10.00 by sending to your house. Yours truly, W. P. CLARK.

CAN'T BE BEAT.

Osceola, Neb.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I can truthfully say that I am the proud possessor of as fine a steel windmill as can be found anywhere. It arrived in fine shape, was put up for use the first week in March and have had ample time to test its merits and am perfectly pleased. The smooth, easy running gear runs with so little wind it is really a surprise, and to sum it up, all in all, "it can't be beat." As to the price, well, I made a clear profit of at least $12.00 after including freight and extra expenditure of getting it raised. At different times I have ordered articles from your firm and the promptness and fairness with which you have treated me and the quality of articles as represented has won from me, as well as many thousand others, the esteem and regard with which your firm is held. Wishing you success in the future as in the past, I remain, Respectfully, F. A. ALINDER.

USEFUL INFORMATION PERTAINING TO WINDMILLS

It has been found by experience that it requires, on an average, a wind of a velocity of four to five miles per hour to drive a steel windmill, and that the windmill will run, on an average, eight hours per day. The average velocity of wind in the United States is sixteen miles per hour for eight hours per day.

From this it is quite evident that a windmill is a profitable investment, because when a good windmill is properly erected it becomes a faithful and reliable servant, upon which you can depend for an average of eight hours of steady work for every day in the year, requiring no feed, no fuel, and but very little oil and attention.

Table of wind velocity and pressure

Velocity of Wind		Pressure	Force of Wind	Velocity of Wind		Pressure	Force of Wind
Miles per Hour	Feet per Second	In Lbs. per Sq. Ft.		Miles per Hour	Feet per Second	In Lbs. per Sq. Ft.	
1	1.47	.005	Hardly perceptible.	30	44.01	4.429	High wind.
2	2.93	.020	Just perceptible.	35	51.34	6.027	
3	4.40	.044		40	58.68	7.873	
4	5.87	.079	Gentle, pleasant	45	66.01	9.963	Very high storm.
5	7.33	.123	wind.	50	73.35	12.300	
10	14.67	.492		60	88.02	17.715	Great storm.
15	22.00	1.107	Pleasant, brisk gale.	70	117.36	31.490	A hurricane that blows down trees, buildings, etc.
20	29.34	1.968		80			
25	36.67	3.075	Very brisk.				

Weight of water in one foot length of pipe

Size	Lbs.	Size	Lbs.	Size	Lbs.	Size	Lbs.
½ in.	.086	1½ in.	.774	3 in.	3.087	4½ in.	6.966
1 in.	.343	2 in.	1.372	3½ in.	4.214	5 in.	8.575
1¼ in.	.537	2½ in.	2.159	4 in.	5.488	6 in.	12.348

Amount of water discharged by one inch of pump stroke

Diam., cylinder, in.	2	2¼	2½	2¾	3	3¼	3½	4	5	6	8
Gallons, per stroke.	.0136	.0172	.0212	.0257	.0306	.0359	.0416	.0544	.0850	.1224	.2176

To ascertain the capacity of a pump with any diameter of cylinder given in above table, multiply the gallons per stroke, as given in the table, by the length of pump stroke, and the result thus obtained by the number of pump strokes per minute; this result multiplied by sixty will give the capacity in gallons per hour.

The capacity of single and double acting pumps is precisely the same, the difference being that the single acting pump discharges all the water on the up stroke of the pump rod, while the double acting pump discharges half on the up stroke and half on the down stroke of the pump rod.

SUMMARY OF PRICES ON WINDMILLS, TOWERS AND WINDMILL ATTACHMENTS

Prices for Improved Kenwood Galvanized Steel Windmills

Pumping windmills are complete with wind wheel, assembled motor, vane, pump pole swivel, pump connection, step box, adjustable pull-out lever and sufficient wood pump pole and galvanized steel pull-out wire for a tower 40 feet in height. In other words, the pumping windmill complete but without a tower.

When a pumping windmill is ordered without a steel tower, it is regularly furnished with a flat cap to set on top of the posts of a wood tower, but, instead of the wood tower cap, if so ordered, we will furnish a cap for a four-post steel tower, or a cap for a three-post steel tower or a set of mast castings.

Power windmills are complete with wind wheel, assembled motor, vane, vertical shafting extending five feet below the turn table, step box, adjustable pull-out lever and sufficient galvanized wire pull-out cable for a 40-foot tower. In other words the power windmill complete, but without a tower.

A foot gear and a certain amount of vertical shafting (depending upon the height of tower or mast), are always necessary items which must be ordered with a power windmill, and nearly always you will require ten feet or more of line shafting. These items are not included in the price of the windmill, but must be ordered separately.

When a power windmill is ordered without a tower, it is regularly furnished with fittings for a wood mast, but instead of the fittings for a wood mast, if so ordered, we will furnish a flat cap to set on top of the posts of a wood tower, or a cap for a four-post steel tower or a cap for a three-post steel tower.

When ordering a windmill to go on a wood mast, always give size of mast, and when ordering a windmill without a steel tower, be sure to state the height of tower or mast on which you will erect the windmill. Shipped knocked down from factory in Southwestern Michigan.

No. 32N1400 6-foot Pumping Windmill. Weight, 275 pounds.
Price..... $11.95

No. 32N1401 8-foot Pumping Windmill. Weight, 330 pounds. Price.....$14.95

No. 32N1402 10-foot Pumping Windmill. Weight, 360 pounds. Price.....$18.45

No. 32N1403 12-foot Pumping Windmill. Weight, 550 pounds. Price.....$29.95

No. 32N1406 12-foot Power Windmill. Weight, 620 pounds. Price.....$31.25

Prices for Improved Kenwood Galvanized Angle Steel Four-Post Towers

Please note that different sizes of windmills require different strength of towers, and that we list below towers of different weights and strength for different sizes of windmills. When ordering a tower, order by the catalogue number to the left of the height of tower and allow the prices shown to the right of the height of tower in the column which indicates the size and kind of windmill with which the tower is to be used. We will not ship out a windmill and tower unless the tower ordered is the tower specified by us for use with the size of windmill selected, or is heavier than the tower specified by us.

Regular towers are made to support the windmill only and will not support a tank in the tower.

Suburban Outfit Towers are made to support a tank in the tower and also to support a windmill at the top of the tower. These towers are made of very much heavier angle steel than is used in regular towers up to the point where the bottom of the tank is supported. Above this point the corner posts are the same as corresponding sections of the regular towers. The bottom of the tank is supported by heavy steel bars which take the place of that particular set of cross girts, and which are firmly secured to the corner posts by very heavy bolts and on which you lay timbers for the tank to rest on. Otherwise the construction of Suburban Outfit Towers is the same as the construction of regular towers.

Suburban Outfit Towers for supporting an 11-barrel tank are made to support the tank at twenty feet from the top of the tower to the bottom of the tank. Those for supporting a 27-barrel tank are made to support the tank at thirty feet from the top of the tower to the bottom of the tank.

The prices on towers are for the towers complete, including a wood platform, four anchor posts and four heavy cast iron anchor plates, in other words, the tower complete, but without a windmill. Shipped knocked down from factory in Southwestern Michigan.

Prices for Improved Kenwood Regular Galvanized Angle Steel Four-Post Towers

CATALOGUE NUMBER	HEIGHT OF TOWER	FOR 6-FOOT PUMPING WINDMILL		FOR 8-FOOT OR 10-FOOT PUMPING WINDMILL	
		WEIGHT, LBS.	PRICE	WEIGHT, LBS.	PRICE
32N1420	20-ft.	320	$12.85	350	$13.80
32N1421	30-ft.	475	17.45	500	18.40
32N1422	40-ft.	620	21.25	650	22.20
32N1423	50-ft.	790	29.25	825	30.20
32N1424	60-ft.	1,010	35.85	1,050	36.80

CATALOGUE NUMBER	HEIGHT OF TOWER	FOR 12-FOOT PUMPING WINDMILL		FOR 12-FOOT POWER WINDMILL	
		WEIGHT, LBS.	PRICE	WEIGHT, LBS.	PRICE
32N1425	20-ft.	500	$20.25	525	$20.70
32N1426	30-ft.	640	26.45	675	27.40
32N1427	40-ft.	840	34.55	875	35.70
32N1428	50-ft.	1,100	42.55	1,140	44.10
32N1429	60-ft.	1,375	54.15	1,425	55.70

Prices for Improved Kenwood Suburban Outfit Galvanized Angle Steel Four-Post Towers

CATALOGUE NUMBER	HEIGHT OF TOWER	FOR 11-BARREL TOWER TANK		FOR 27-BARREL TOWER TANK	
		WEIGHT, LBS.	PRICE	WEIGHT, LBS.	PRICE
32N1430	40-ft.	850	$34.25	....	.....
32N1431	50-ft.	1,000	40.35	1,250	$50.30
32N1432	60-ft.	1,150	46.35	1,650	66.20

PUMPS FROM TWO WELLS.

Academy, S. Dak.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: The steel windmill we bought of you is perfectly satisfactory in every way. It pumps two wells at the same time; one well is about 40 feet from the mill. It forces the water through pipes under ground to tank in side hill above the wells. It regulates itself perfectly in strong wind; no one could find fault with it, and it costs much less than one of the same size would cost here.

Yours truly, W. H. HEATON.

COMPLETE WINDMILL OUTFITS

For the convenience of our customers who desire to order complete windmill outfits, aside from listing the windmills and towers separately, we list them in combination, as shown in the following tables:

Prices for Complete Regular Pumping Windmill Outfits

A complete regular pumping windmill outfit consists of a galvanized steel pumping windmill complete and a regular galvanized steel four-post tower complete, each tower being the style and weight especially designed for the windmill which it is designed to support. When ordering a regular pumping windmill outfit, order by the catalogue number to the left of the height of tower and allow the price shown to the right of the height of tower in the column which indicates the size of the windmill. Shipped knocked down from factory in Southwestern Michigan.

CATALOGUE NUMBER	HEIGHT OF TOWER	SIZE OF WINDMILLS AND PRICE OF COMPLETE WINDMILL AND TOWER			
		6-FOOT	8-FOOT	10-FOOT	12-FOOT
32N1450	20 ft.	$24.80	$28.75	$32.25	$50.20
32N1451	30 ft.	29.40	33.35	36.85	56.40
32N1452	40 ft.	33.20	37.15	40.65	64.50
32N1453	50 ft.	41.20	45.15	48.65	72.50
32N1454	60 ft.	47.80	51.75	55.25	84.10

Prices for Complete Suburban Pumping Windmill Outfits

A complete suburban pumping windmill outfit consists of galvanized steel pumping windmill, a galvanized steel suburban outfit four-post tower and a No. 20 gauge galvanized steel tapered tower tank. When ordering a suburban pumping windmill outfit, order by the catalogue number to the left of the height of tower, allow the price shown to the right of the height of tower in the column which indicates the size of the windmill, and under the size of tank which you desire. Shipped knocked down from factory in Southwestern Michigan.

CATALOGUE NUMBER	HEIGHT OF TOWER	SIZE OF WINDMILLS AND TANKS AND PRICE OF COMPLETE WINDMILL, TOWER AND TANK.		
		6-FOOT	8-FOOT	10-FOOT
		WITH 11-BARREL TANK		
32N1455	40 ft.	$58.25	$61.25	$64.75
32N1456	50 ft.	64.35	67.35	70.85
32N1457	60 ft.	70.35	73.35	76.85
		WITH 27-BARREL TANK		
32N1458	50 ft.	81.15	84.15	87.65
32N1459	60 ft.	97.05	100.05	103.55

Prices for Complete 12-Foot Power Windmill Outfits

A complete power windmill outfit consists of a 12-foot galvanized steel power windmill complete, vertical shafting, twelve feet less in length than the height of mast or tower on which the mill is to be erected, one foot gear with 18x6 inch pulley, and ten feet of line shafting. This constitutes an outfit to go on a wood mast or wood tower. If the windmill is ordered with a steel tower, the outfit is the same as above, with the addition of one regular galvanized steel four-post tower. The amount of vertical shafting furnished will place the horizontal shaft of the foot gear, $5\frac{1}{2}$ feet above the bottom of the mast or tower.

When ordering a power windmill outfit, order by the catalogue number to the left of the height of tower or mast, and allow the price shown to the right of the height of tower or mast in the column which indicates whether the windmill is to go on a wood mast or wood tower, or whether the outfit is to be furnished with a steel tower, and if for mast give size of mast. Shipped knocked down from factory in Southwestern Michigan.

CATALOGUE NUMBER	HEIGHT OF TOWER OR MAST	PRICE OF COMPLETE POWER WINDMILL OUTFITS AS DESCRIBED ABOVE	
		FOR WOOD MAST OR WOOD TOWER	WITH STEEL TOWER
32N1470	20 feet	$41.60	$62.30
32N1471	30 feet	43.60	71.00
32N1472	40 feet	45.60	81.30
32N1473	50 feet	47.60	91.70
32N1474	60 feet	49.60	105.30

ACME WOOD WHEEL WINDMILL

Shipped from factory in Northeastern Michigan.

No. 32N1480 Wood Windmill. Price.....$18.00

WINDMILL FOOT GEAR

Shipped from factory in Southwestern Michigan.

No. 32N1482 Foot Gear. Price.....$6.25

WINDMILL PUMPING JACK

Shipped from factory in Southwestern Michigan.

No. 32N1484 Windmill Pump Jack. Price.....$5.95

KENWOOD PUMP JACK

Shipped from Chicago.

No. 32N1486 Kenwood Pump Jack. Price.....$12.00

WINDMILL QUADRANT LEVERS

Shipped from factory in Southwestern Michigan.

No. 32N1488 Quadrant Levers. Price, per pair.....$2.90
No. 32N1489 Connecting Wire. Per 10 feet..... .04

WINDMILL ROCKER ARMS

Shipped from factory in Southwestern Michigan.

No. 32N1490 Rocker Arms. Price, per pair.....$2.00
No. 32N1491 Rocker Pipe. Price, per foot..... .13

SHAFTING, ETC., FOR POWER WINDMILLS

Shipped from factory in Southwestern Michigan.

No. 32N1492 $\frac{7}{8}$-Inch Vertical Shafting, complete with a half coupling on each end of each piece of shaft, babbitted bearings about six feet apart, and if for windmill mast, with coach screws for fastening to mast. Weight, 4 lbs. per foot. Price, per foot.....20c

No. 32N1493 1-inch Line Shafting, complete with a half coupling on each end of each piece of shafting, babbitted bearings about six feet apart and coach screws for fastening the bearings to timber. Weight, $4\frac{1}{2}$ lbs. per foot. Price, per foot.....25c

No. 32N1494 Shifting Clutch Coupling, for 1-inch line shafting, complete with shifting lever, one straight feather key and one taper key. Weight, 15 lbs. Price.....$1.55

No. 32N1495 Pulleys, 8 inches in diameter with 4-inch face, bored for 1-inch line shafting; to drive pump jack. Weight, 8 pounds. Price,.....$1.17

No. 32N1496 6-inch No. 42 Sprocket Wheel, bored for 1-inch line shafting; to drive pump jack. Weight, 6 pounds. Price....$1.20

No. 32N1497 Set of four ½-inch Guy Rods, each 15 feet long, including turn buckles, two bolts to pass through the windmill mast and four bolts to secure the ends to the barn. Weight, 50 pounds. Price.....$3.20

PEERLESS WINDMILL REGULATOR

Can be shipped from Chicago or from factory in Southwestern Michigan.

No. 32N1500 Peerless Windmill Regulator. Price.....$2.25

KENWOOD WINDMILL REGULATOR

Can be shipped from Chicago or from factory in Southwestern Michigan.

No. 32N1502 Kenwood Windmill Regulator. Price.....$1.60

WINDMILL CUSHION PUMP SPRING

Can be shipped from Chicago or from factory in Southwestern Michigan.

No. 35N1504 Pump Spring. Price.....95c

PUMPING WINDMILL FEED GRINDER

Shipped from factory in Western Ohio.

No. 32N1506 Grinder. Price.....$2.98

No. 32N1507 Set of Burrs. Weight, 10 pounds..... .99

GALVANIZED STEEL TAPERED TOWER TANKS

Made of No. 20-gauge steel. Shipped from factory in Southwestern Michigan.

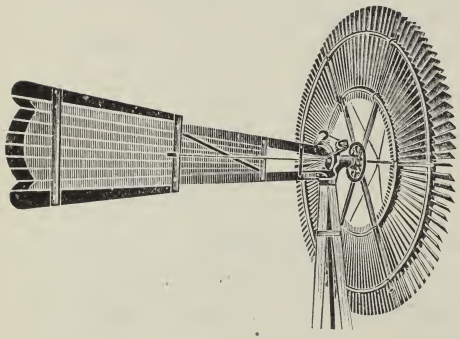
Catalogue No.	Size No.	Height	Diameter Bottom	Diameter Top	Capacity	Weight	Price
32N1515	T1	6 ft.	3 ft. 9 in.	2 ft. 7 in.	11 bbls.	160 lbs.	$12.05
32N1516	T2	6 ft.	5 ft. 6 in.	4 ft. 4 in.	27 bbls.	250 lbs.	$18.90

No. 32N1517 Conical Cover for No. T1 Tank. Weight, 25 pounds. Price.....$2.25

No. 32N1518 Conical Cover for No. T2 Tank. Weight, 40 pounds. Price.....$2.85

ACME WOOD WHEEL DIRECT STROKE WINDMILL

Many of our customers prefer a direct stroke windmill, and while we always advise the selection of a back-geared galvanized steel windmill, we have in the Acme Wood Wheel Windmill, a high grade direct stroke windmill, which meets the demands of this class of trade perfectly. It is a direct stroke windmill of great strength and durability, and one which will regulate and govern itself perfectly in any wind. Has positive break, which prevents the wheel from running when thrown out of the wind. Is in every way a perfect and high class article. Price includes all bolts for putting the windmill together and bolting it to tower; also pitman rod to attach windmill to pump and cap for wood tower, or will furnish cap for four-post steel tower, if so ordered. This windmill can be used on our steel towers for 8-foot or 10-foot steel windmills, but when ordering tower you must state that it is to be fitted for this windmill. Made in one size only, with 10-foot wheel. Weight, 300 pounds. Shipped knocked down from factory in Northwestern Michigan.



No. 32N1480 Wood Windmill. Price.....**$18.00**

CAN RECOMMEND OUR WINDMILL TO EVERY FARMER.

Dickens, Texas.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—I recommend your windmill to every farmer who wants a good windmill that will give first class satisfaction. I am from Illinois myself but now live in Texas. I can grind forty bushels per day with your power windmill. It is as good to pump water as any in this section. Yours truly, S. AUSTIN.

BETTER THAN HE EXPECTED.

Matthewson, Okla.

Sears, Roebuck & Co., Chicago, Ill.

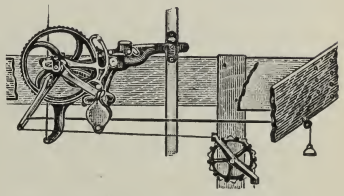
Dear Sirs:—I wish to say that the windmill I got a short time ago is better than I thought it would be when I ordered it. It is a good, durable windmill and I am well pleased with it. The only trouble with us is the freight. We are a good ways from market. Still my profit on windmill was $4.90. Yours very respectfully,

H. C. SNYDER.

WINDMILL REGULATORS, ETC.

PEERLESS WINDMILL REGULATOR

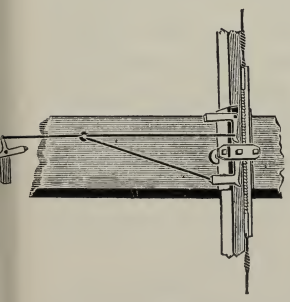
THE BEST WINDMILL REGULATOR MADE



Can be attached to any make of wood or steel windmill whether on wood or steel tower or mast; takes full charge of the windmill, pulls it out of the wind when tank is full, and allows the mill to turn into the wind when the water lowers; makes it safe to erect windmills anywhere and is a protection against storms. When tank is full of water, the float releases the weighted circular ratchet and the action of the windmill pump rod pulls the windmill out of the wind. When the water lowers, the weight of the float disengages the ratchet dog and allows the windmill to turn back into wind. The wire guide is in the form of a sheave, so that the connecting wire is in one continuous piece. This regulator is strong and durable and is very easy to attach. Price is for the regulator complete, except the float which you make of wood. Weight, 30 pounds. Can ship from Chicago or from factory in Southwestern Michigan.

No. 32N1500 Windmill Regulator. Price.....**$2.25**

KENWOOD WINDMILL REGULATOR

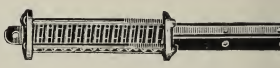


The simplest and most perfect working cheap Windmill Regulator made. The illustration shows how the regulator is attached. The windmill pump pole works up and down through the main casting of the regulator. The steel ratchet bar is connected to and forms a part of the pull out wire. When the tank is full it allows one of the dogs to drop into the ratchet and the successive motions of the pump pole pulls the windmill out of the wind. When the water lowers in the tank, the dog is released and allows the windmill to turn into the wind again. Can be used on any style or make of

windmill. Price is for regulator complete, except the wood float and the connecting wire, which wire should be about $\frac{1}{16}$-inch in diameter. Weight, 24 pounds. Can ship from Chicago or from factory in Southwestern Michigan.

No. 32N1502 Windmill Regulator. Price.....**$1.60**

WINDMILL CUSHION PUMP SPRING



Consists of a strong coil spring enclosed in a skeleton case. The lower end of this spring is gripped by two steel bars which connect with the pump pole of the windmill. The skeleton case grips the top of the spring and the lower end of the case connects with the pump, and the spring itself takes off all the strain and sudden jars which often times occur through unsteadiness of the wind or from other causes. Increases the life of both windmill and pump. Should and can be used in connection with every pumping windmill. Weight, 12 pounds. Can be shipped from Chicago or from factory in Southwestern Michigan.

No. 32N1504 Pump Spring. Price.....**95c**

KENWOOD PUMP JACK

Is made to attach to base of the pump standard and has two connecting rods, which run up beside the pump and connect with the pump by means of a cross head; is geared back 9½ to 1; that is, the driving pulley makes 9½ revolutions to every up and down stroke of the pump rod; has 6-inch stroke; can be used with any power windmill, gasoline engine, steam engine or horse power, where power is transmitted by belt; is fitted with tight and loose pulleys, 8 inches in diameter, with 2-inch face, and should be run at about 380 revolutions per minute. Price does not include pump. Weight, 75 pounds. Shipped from Chicago.

No. 32N1486 Pump Jack. Price.....**$12.00**

SAVED $15.00.

Yorkville, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: I received the windmill in good order, have got it up and it is all right, and I am very well satisfied with it, and I am glad that I sent to you for it for I think that I have saved at least $15.00 by getting one from you.

Yours with respect, Z. PEES.

GALVANIZED STEEL TANKS.

GENERAL DESCRIPTION OF GALVANIZED STEEL TANKS.

All of our Galvanized Steel Tanks are made of the best quality of standard No. 20 gauge galvanized sheet steel. The tops are bound with angle steel. Bottoms are secured between two pieces of flat steel, or between a piece of angle steel and a piece of flat steel, this depending upon the size of the tank. Sides are firmly braced, when size and shape require it, with angle steel bars. Round end, square end, oval and the larger sizes of round storage tanks have angle steel bars across the top, the number of these bars being governed by the length or size of the tank. This construction and the fact that **we do not use light weight or under gauge steel,** makes our steel tanks the strongest, best made and most durable tanks on the market, and they are warranted not to leak or break down.

A tank made of No. 18 gauge steel will cost one-fifth more, or a tank made of No. 16 gauge steel will cost two-fifths more than the prices shown in the catalogue, and weights will increase in about one-half of this proportion.

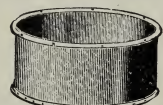
We will not cut pipe connection holes in steel tanks. These holes you can easily cut for yourself exactly where you want them by using a cold chisel and cutting against the end of a block of hardwood. We cannot, under any circumstances, accept the return of steel tanks in which holes have been cut. **Pipe connections,** consisting of 1 close nipple, 2 leather washers, 2 lock nuts and 1 pipe cap will be furnished at the following prices: ¾-inch, **20c;** 1-inch, **25c;** 1¼-inch, **30c.**

Regular flat hinged covers for steel tanks will be furnished at 12 cents per square foot, measuring round tanks as though they were square and round end tanks as though they were square at ends.

When tanks are shipped knocked down, all holes are punched, every part is fitted together at the factory and sufficient solder and rivets are sent with which to put the tank together. Capacities shown in barrels are based on 31½ gallons to the barrel.

Certain tanks which are regularly shipped set up can and will be shipped knocked down if so ordered, and when such tanks weigh much over 200 pounds and are to be shipped over 500 miles, or when any size of such tanks are to be shipped over 1,000 miles we advise you to order them knocked down, because you will then save in freight charges more than it should cost you to put the tank together.

Galvanized Steel Round Tanks.



Always shipped set up unless otherwise ordered. As stated above (see ☞), these tanks can and will be shipped knocked down when so ordered. Shipped from factory in Southwestern Michigan.

Catalogue No.	Size No.	Diam., feet	Height, feet	Capacity, bbls.	Weight, lbs.		Price
32N1523	**1**	4	2	6	90	✪	**5.10**
32N1524	**2**	4	2½	7	100		**5.65**
32N1525	**3**	4	3	9	110		**6.20**
32N1526	**4**	4	4	12	135		**7.20**
32N1527	**5**	5	2	9½	115		**6.30**
32N1528	**6**	5	2½	12	125		**7.70**
32N1529	**7**	5	3	14	140		**8.55**
32N1530	**8**	5	4	19	170		**10.45**
32N1531	**8½**	5	5	24	200		**12.60**
32N1532	**48**	5	8	37½	300		**19.45**
32N1533	**9**	6	2	14	160		**9.10**
32N1534	**10**	6	2½	17	170		**10.50**
32N1535	**11**	6	3	20	190		**10.95**
32N1536	**12**	6	4	27	230		**13.70**
32N1537	**43**	6	5	34	260		**16.45**

For larger shallow tanks see round storage tanks.

READ THIS.

Bayard, Neb.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—The windmill that I bought from you will pump with less wind than any windmill around here and is a saving to me of the neat little sum of $11.37.

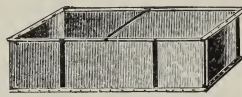
Yours truly, A. W. ANDERSON.

Galvanized Steel Round End Tanks.

Always shipped set up unless otherwise ordered. As stated above (see ☞) these tanks can and will be shipped knocked down when so ordered. In figuring the capacities no allowance has been made for the round corners, therefore these tanks will not hold quite as much as the table shows. Shipped from factory in Southwestern Michigan.

Catalogue No.	Size No.	Length, feet	Width, feet	Height, feet	Capacity, bbls.	Weight, pounds	Price
32N1553	B13	6	2	2	5¾	90	**$5.15**
32N1554	**13**	8	2	2	7½	125	**6.20**
32N1555	**14**	8	2	2½	9½	135	**6.60**
32N1556	**15**	8	2½	2	9½	135	**6.65**
32N1557	**16**	8	2½	2½	12	150	**7.15**
32N1558	**17**	8	3	2	12	145	**7.25**
32N1559	**18**	8	3	2½	14	165	**8.55**
32N1560	**19**	8	4	2	15	155	**9.15**
32N1561	**20**	8	4	2½	17	175	**10.55**
32N1562	**21**	8	4	3	23	215	**12.65**
32N1563	B46	8	6	2	23½	210	**13.15**
32N1564	**22**	10	3	2	14	165	**8.60**
32N1565	**23**	10	3	2½	18	190	**10.70**
32N1566	**24**	10	3	3	21	215	**11.85**
32N1567	**25**	10	4	2	19	215	**10.95**
32N1568	**26**	10	4	2½	24	235	**13.15**
32N1569	**27**	10	4	3	29	265	**14.85**
32N1570	B48	10	4	5	47	335	**21.10**
32N1571	B47	10	6	2	28½	255	**14.90**
32N1572	B46	10	6	4	56	375	**25.90**
32N1573	**44**	16	4	2	30	315	**16.45**
32N1574	B45	16	5	2	38	360	**18.90**

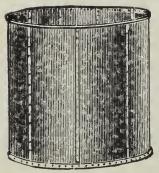
Galvanized Steel Square End Tanks.



Always shipped set up unless otherwise ordered. As stated on preceding page (see ☞), these tanks can and will be shipped knocked down when so ordered. Shipped from factory in Southwestern Michigan.

Catalogue No.	Size, No.	Length, feet	Width feet	Height, feet	Capacity, bbls.	Weight, pounds	Price
32N1600	45	4	2	1	2	50	$ 2.45
32N1601	46	4	2	2	4	80	4.35
32N1602	47	6	2	2	6	110	5.60
32N1603	28	8	2	2	7½	135	6.70
32N1604	29	8	2	2½	9½	150	7.30
32N1605	30	8	2½	2	9½	145	7.35
32N1606	31	8	2½	2½	12	165	7.90
32N1607	32	8	3	2	12	155	7.95
32N1608	33	8	3	2½	14	180	9.35
32N1609	34	8	4	2	15	185	10.05
32N1610	35	8	4	2½	17	210	11.50
32N1611	36	8	4	3	23	250	13.90
32N1612	37	10	3	2	14	195	9.40
32N1613	38	10	3	2½	18	220	11.80
32N1614	39	10	3	3	21	260	13.00
32N1615	40	10	4	2	19	225	12.05
32N1616	41	10	4	2½	24	260	14.50
32N1617	42	10	4	3	29	295	16.60

Galvanized Steel Round Storage Tanks.



These tanks are always shipped knocked down. They cannot be shipped set up because they are too large to go into the door of a freight car. We advise the selection of No. 18-gauge steel for 8x10 or 10x8-foot tanks, and No. 16-gauge steel for 10x10-foot tanks. See general description for additional cost of No. 18 and No. 16-gauge steel. Shipped from factory in Southwestern Michigan.

Catalogue Number	Size Number	Diameter, Feet	Height, Feet	Capacity Barrels	Weight, Pounds	Price
32N1636	A23	6	6	39½	330	$18.75
32N1637	A 8	6	8	53½	360	22.00
32N1638	A27	8	2	24	240	13.20
32N1639	A28	8	2½	30	260	15.95
32N1640	A24	8	5	60	390	24.30
32N1641	A25	8	6	71½	450	28.80
32N1642	A12	8	8	95	520	35.20
32N1643	A18	8	10	119	620	42.50
32N1644	A29	10	2	37½	315	18.35
32N1645	A30	10	2½	46	350	21.60
32N1646	A26	10	8	150	700	47.80
32N1647	A21	10	10	186	850	55.80

SAVED $15.00 AND IS SATISFIED.
Garwin, Iowa.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen: The windmill I received of you is all right; does good work. Saved me $15.00 on the windmill. Am entirely satisfied. Yours respectfully,

A. M. FURROW.

Galvanized Steel Oval Tanks.

Always shipped set up. Cannot be shipped knocked down. Largest sizes have supporting truss in the center as well as at each end. Shipped from factory in Southwestern Michigan.

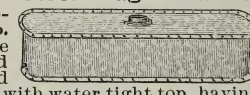
Catalogue Number	Size Number	Length, Feet	Width, Feet	Depth, Inches	Capacity, Barrels	Weight, Pounds	Price
32N1660	68	8	1½	14	4	90	$4.55
32N1661	67	8	2	12	4	90	4.60
32N1662	63	8	2	20	6	130	6.63
32N1663	62	8	2½	18	6	130	6.68
32N1664	72	8	3	24	10	165	8.80
32N1665	71	8	3½	22	10	165	8.85
32N1666	74	8	4	24	16	185	10.35
32N1667	64	10	1½	8	2	60	3.40
32N1668	66	10	1½	14	5	100	5.13
32N1669	65	10	2	12	5	100	5.18
32N1670	61	10	2	20	8	150	7.75
32N1671	60	10	2½	18	8	150	7.80
32N1672	70	10	3	24	13	175	9.30
32N1673	69	10	3½	22	13	175	9.35
32N1674	73	10	4	24	20	200	12.10

Galvanized Steel Sheep Dipping Tanks.

Always shipped set up, because shape of tank makes it difficult to put together. Furnished with end ladder. The incline of our dipping tanks allows sheep to walk out easily. All sizes are two feet wide at top and one foot wide at bottom, and are furnished with ladder. Shipped from factory in Southwestern Michigan.

Catalogue Number	Size Number	Length, Top	Length, Bottom	Height, Feet	Weight, Pounds	Price
32N1690	B1	6 ft.	3 ft.	3	120	$ 7.18
32N1691	B2	8 ft.	5 ft.	3	155	9.38
32N1692	B3	8 ft.	4 ft.	4	190	10.98
32N1693	B5	10 ft.	7 ft.	3	180	12.18
32N1694	B6	10 ft.	6 ft.	4	230	13.78

Galvanized Steel Wagon Tanks.



Always shipped set up. Cannot be shipped knocked down. Made with water tight top, having 14-inch round cast iron manhole. Has 1-inch pipe connection near bottom in rear end. Can be used on any wagon by laying boards on the wagon gear. Capacity is not quite as much as shown in table, as no allowance has been made for round corners. Shipped from factory in Southwestern Michigan.

Catalogue No.	Size No.	Length, Feet	Width, Feet	Height, Feet	Capacity, Barrels	Weight, Pounds	Price
32N1700	E1	6	2	2	5¾	120	$6.97
32N1701	E2	8	2	2	7½	155	8.27
32N1702	E3	8	2½	2	9½	170	9.97
32N1703	E4	8	3	2	12	180	11.57
32N1704	E5	10	3	2	14	235	13.27

Galvanized Steel House Tanks.

For storing a supply of water in the house. The tanks and wood cases are priced separately, so that you can order the tank only or both tank and case. Case is made of matched pine, and has hinged cover. Always shipped set up. Shipped from factory in Southwestern Michigan.

Catalogue No.	Size, No.	Size Tank, Height, inches	Size Tank, Diameter, inches	Size Tank, Capacity, gallons	Steel Tank, Weight, pounds	Steel Tank, Price	Wood Case, Weight, pounds	Wood Case, Price
32N1710	C1	20	20	27	20	$1.55	50	$1.70
32N1711	C2	24	20	32	22	1.65	60	1.85
32N1712	C3	24	24	47	26	1.80	70	2.05
32N1713	C4	24	30	73	34	2.00	130	2.30

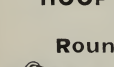
Galvanized Steel Hog Troughs.

Always shipped set up. Cannot be shipped knocked down. Ends are cast iron having flat bottoms with a hole at each corner so that trough can be bolted down. Cross bars are about 12 inches apart. Shipped from factory in Southwestern Michigan.

Catalogue No.	Size No.	Length, Feet	Width, inches	Depth, inches	Weight, pounds	Price
32N1720	H1	4	14	8	34	$1.56
32N1721	H2	6	14	8	43	1.96
32N1722	H3	8	14	8	52	2.36
32N1723	H4	10	14	8	61	2.96
32N1724	H5	12	14	8	70	3.46
32N1725	H6	16	14	8	88	4.66

HOOP LUGS AND BAND FASTENERS.

Round Iron Hoop Lugs.



Made of malleable iron. Smooth or covered on the outside and open on the inside next to the tank. Strong and durable.

Catalogue No.		Wgt. lbs.	Price
32N1750	Lug for ½-in. iron.	¾	7c
32N1751	Lug for ⅝-in. iron.	1	9c
32N1752	Lug for ¾-in. iron.	1¼	13c
32N1753	Lug for 1-in. iron.	3	20c

Flat Band Fasteners.

Made of malleable iron with steel bolts. Ends of hoops are gripped and held firm by corrugated grip blocks. The best band fasteners made.

Catalogue No.	Size of Band, inches	Number and Size of Bolts, inches	Weight, pounds	Price
32N1760	1	One 7/16x10	1½	$0.23
32N1761	1½	One ½x13	2	.26
32N1762	1¾	One ½x13	2¾	.32
32N1763	2	One ⅝x14	3½	.42
32N1764	2½	One ⅝x16	5	.55
32N1765	3	One ¾x18	7¼	.65
32N1766	3½	One ⅞x18	9½	.95
32N1767	4	Two ¾x18	13½	1.25

STOCK WATERERS.

No. 1 Stock Waterer.

Operated by a simple automatic float connected to a rust proof valve, which is protected by the partition, but which can be easily cleaned. Pan and nipple are cast solid and cannot leak. Partitions and lid are cast in one piece, so that waterer can be cleaned without taking apart. Nipple has outside thread to screw into barrel, and is also tapped for ¾-inch iron pipe. Each end of trough holds about one gallon. Length, 18¼ inches; width, 6¼ inches; depth, 4 inches inside. Weight, 16 pounds.

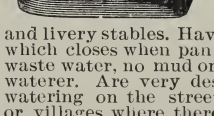
No. 32N1775 No. 1 Stock Waterer.
Price..... **$1.10**

No. 2 Stock Waterer.

The best and most satisfactory Automatic Stock Waterer on the market. It is operated by a metal ball float connected to a rust proof valve which closes on a rubber valve float. Absolutely reliable. As soon as pan fills up to near the top the float shuts the water off. Float chamber is inside the barrel or tank, out of all mud and dirt. Requires a 2-inch hole for stem of float chamber to pass through and is easily attached. Inlet is tapped so that it can be connected with ¾-inch iron pipe. Holds about one and one-half gallons. Length, 10¾ inches; width, 5¼ inches; depth, 4½ inches inside. Weight, 11 pounds.

No. 32N1777 No. 2 Stock Waterer.
Price..... **$1.15**

Nos. 3 and 4 Stock Waterers.

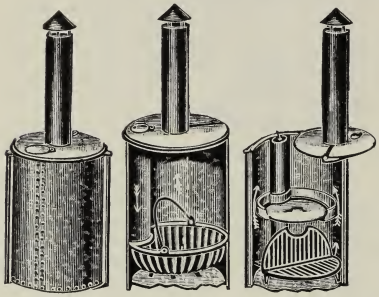


These waterers are extra large and are suitable for horses, cattle, etc. Just right for barns and livery stables. Have automatic valve, which closes when pan is nearly full. No waste water, no mud or slush around the waterer. Are very desirable for public watering on the streets of small towns or villages where there is no sewer system to carry off waste water. The No. 3 is tapped for 1-inch iron pipe, and is not intended for high pressure. The No. 4 is tapped for ¾-inch iron pipe and will work up to a pressure of 80 pounds; any higher pressure merely holds the valve shut. Each end holds about 2½ gallons. Length, 24 inches; width, 9½ inches; depth, 6 inches inside. Weight, 30 pounds.

No. 32N1778 No. 3 Stock Waterer.
Price..... **$2.65**

No. 32N1779 No. 4 Stock Waterer.
Price..... **3.90**

PEERLESS TANK HEATERS.



THE BEST TANK HEATERS MADE.

Long experience in the sale of tank heaters and careful investigation into the merits of different forms and styles of heaters have led us to adopt this one as our leader. It is a heater which we know will give perfect satisfaction to our customers, one which we can and do guarantee fully, not only as to material and workmanship, but also as to simplicity, utility and durability. The heater is 26 inches high, made with No. 20 gauge galvanized steel sides, No. 18 gauge galvanized steel bottom and with a swinging cast iron top in which there is an air damper. **The sides are double riveted in fireproof cement and the bottom is riveted and soldered. Every heater is warranted not to leak.** The No. 1 heater is 16 inches in diameter, the No. 2 is 19 inches in diameter. Both are made as plain heaters and with either hinged grate or basket grate. They are also both made with an improved heat deflector which directs the heat against the sides of the heater, **doubling its efficiency and making it far more economical.** This deflector can be adjusted as to height and can be used with either style grate, **and either grate can be taken out,** by removing the cover of the opening through which the fuel is passed and the ashes removed. **Prices are for the heaters complete with shovel, poker, holding down rods and one joint of 5-inch pipe with spark arrester and hood.** Shipped from factory in Northern Illinois.

PLAIN TANK HEATERS.

Cat. No.	With	Wt. lbs.	Price
32N1810	No. 1 hinged grate.	47	$2.50
32N1811	No. 2 hinged grate.	63	3.50
32N1812	No. 1 basket grate.	51	2.70
32N1813	No. 2 basket grate.	68	3.80

TANK HEATERS WITH DEFLECTORS.

Cat. No.	With	Wt. lbs.	Price
32N1814	No. 1 hinged grate.	57	$3.40
32N1815	No. 2 hinged grate.	75	4.40
32N1816	No. 1 basket grate.	61	3.75
32N1817	No. 2 basket grate.	80	4.75

TANK HEATERS. Perfect Tank Heater.

This heater is 24 inches high with a fire box 12 inches in diameter and 20 inches deep. The outside wall is made of galvanized steel and is oval in shape. The fire box is in the large end, the narrow end serving as an air space and being large enough for a long handled shovel to be inserted under the grate to remove the ashes. The bottom is galvanized steel, seamed and soldered. The top is cast iron, has a hinged cover and air damper and is securely bolted to the sides. Grate is cast iron. Price is for the heater complete with shovel, holding down rods and one joint of 4-inch pipe with damper, spark arrester and hood. Weight, 48 pounds. Shipped from factory in Southwestern Michigan.

No. 32N1808 Tank Heater.
Price.....**$2.60**

THEY ARE ALL RIGHT.

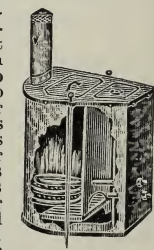
Oakwood, Ohio.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen : — In regard to windmills would say, I set the last one up Monday and they are all right, a fine windmill. They ask $50.00 for a windmill no better than they are. The parties they were for, are well pleased. Yours, in haste,

M. Y. ABBOTT.

Kenwood Tank Heater.



A very popular heater made of heavy galvanized steel, except the top and grate which are cast iron. The top is securely fastened to the sides. It has an air damper and two covers which give easy access to both fire pot and air chamber. The grate is made to dump and is suitable for coal, wood or cobs. Ashes are removed with a long handled shovel through the air chamber. Above the grate there is a coil made of ½-inch iron pipe, through which the water circulates. This pipe enters and leaves the heater on the air chamber side, so that its packing cannot burn out and make the tank leak. Water circulating through this pipe becomes heated and greatly increases the efficiency of the heater. Fire pot is 20 inches deep above grate and is double, having a steel lining. Heater occupies a floor space of 12x21 inches and is 24 inches high. Price is for heater complete with shovel, holding down rods and one joint of 5-inch pipe with damper, spark arrester and hood. Weight, 62 pounds. Shipped from factory in Southwestern Michigan.

No. 32N1819 Tank Heater.
Price.....**$3.90**

PUMP DEPARTMENT.

PROBABLY THERE IS NO OTHER LINE of goods that we sell on which we can save our customers more money than we can on pumps. We fit all our pumps so anyone can set them in the well without any trouble. The only special tool required is a pipe tong. **We sell a pipe tong for 66 cents, and everyone should have one.**

IF IN DOUBT write us, giving us this information: How deep is well? Is force pump or lift pump wanted? How much water is wanted per day? When water is to be drawn from a distance or forced to a distance, send a rough drawing showing position of pump, position of well, giving all angles and measurements. We will name our price on the best outfit.

Write for our special Pump Catalogue which shows a full line of shallow well, cistern, wood and chain pumps.

HOW TO ORDER A PUMP.

When a pump is ordered for a well more than 25 or 30 feet deep, the cylinder should be placed within 10 feet of the bottom of well. It might be well to add here that the nearer a cylinder is placed to the water the better it will work, and where possible it is always advisable to place the cylinder directly in the water. **When so ordered,** it takes more pump rod and pump rod couplings, and requires extra labor, for which we make an extra charge of 5 cents per foot for each foot the cylinder is put down. This charge is to be added to cost of pump and pipe complete.

NOTICE—The cost of pipe is not included in above extra charge. We give below a sample order for pump and pipe complete to reach 74 feet from platform with cylinder put down 65 feet.

EXAMPLE:

No. 24N5278	1 pump, No. 6.	**$3.90**
No. 24N5710	70 feet black iron pipe, 1¼-inch, at 7½ cents.	**5.25**
To putting cylinder down 65 feet, at 5 cents		**3.25**
Total		**$12.40**

Lift Pump with Windmill Head.

Figure 70

Adapted for wells not more than 80 feet deep. May also be used for hand use. Pipe screws into standard at the spout. Has revolving top and swinging fulcrum. **All parts are strong and durable. We can fully recommend it as a first class pump.** Measures 4 feet from platform to bottom of cylinder. For wells not more than 25 or 30 feet deep, order pump as shown in illustration and enough 1¼-inch iron pipe to reach from bottom of cylinder (4 feet below platform) to bottom of well. Price of pipe is not included in price of pump. Average weight, 80 pounds. For price of pipe, see No. 24N5710.

No. 24N5274 No. 2, 2½-inch cylinder..... **$3.55**
No. 24N5276 No. 4, 3-inch cylinder..... **3.70**
No. 24N5277 No. 5, extra heavy, 3¼-inch cylinder... **3.80**
No. 24N5278 No. 6, extra heavy, 3½-inch cylinder... **3.90**

Above pump furnished with 10-inch iron cylinder; brass body cylinders furnished at an extra cost of difference in price of cylinders. See No. 24N5545 for prices on brass body cylinders. When this pump is ordered for wells more than 25 or 30 feet deep, cylinder should be placed within 10 feet of the bottom of the well, for which **we make an extra charge** in addition to cost of pump and pipe, same as explained under No. 24N5278.

Figure 90

Windmill Force Pump.

High Grade Extra Heavy Force Pump. We can fully recommend this pump as being a strong and powerful force pump. Size 8 is fitted for 1½-inch pipe; other sizes fitted for 1¼-inch pipe.

	Size	Size Cylinder	Price
No.24N5310	2	2½x10	**$6.00**
No.24N5311	3	2¾x10	**6.10**
No.24N5312	4	3 x10	**6.20**
No.24N5313	5	3¼x10	**6.40**
No.24N5314	6	3½x10	**7.00**
No.24N5315	8	4 x10	**7.50**

Above pumps furnished with iron cylinder. If wanted with brass cylinder, add difference in price; see No. 24N5545.

The above prices are for pump without cock spout or back attachment.

If wanted with cock spout add 75c.

If wanted with back attachment add 90c.

REMEMBER

WE GUARANTEE ALL OF OUR GOODS STRICTLY

HIGH GRADE

in every way, and if they are not perfectly satisfactory when received we will return your money and the goods can be returned to us at our expense.

Acme Double Acting Force Pumps.

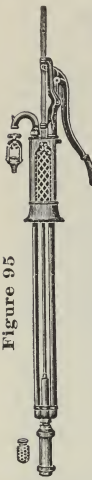


Figure 95

Acme Double Acting Force Pump with windmill head and revolving spouts for shallow or deep wells. The upper cylinder is heavy seamless drawn brass tubing. The lower cylinder is furnished with our new style brass poppet valves and brass valve seats. Each pump is furnished with our improved malleable hose attachment and suction strainer. When used in deep wells the lower cylinder should be lowered to within 10 to 15 feet of bottom of well, or better still placed in the water. We furnish this pump with windmill head which can be used by hand if so desired. For a deep well pump, say 125 to 150 feet, this pump has no equal.

No. 24N5317 Size cylinder, brass lined, 2½ inches, for 1¼-inch pipe. Price.....**$8.55**

No. 24N5318 Size cylinder, brass lined, 3 inches, for 1¼-inch pipe. Price.....**$8.70**

No. 24N5319 Size cylinder, brass lined, 3½ inches, for 1½-inch pipe. Price.**$8.85**

Double Acting Force Pump with Three-Way Cock.

Figure 100

This pump is the same as No. 24N5317 with the exception that it has a vertical three-way cock. With the aid of this three-way cock water can be forced under ground into tanks or cisterns. Upper cylinder is brass, lower cylinder brass lined.

No. 24N5323 Size cylinder, 2½ inches, for 1¼-inch pipe. Price.....**$9.00**

No. 24N5324 Size cylinder, 3 inches, for 1¼-inch pipe. Price.....**$9.10**

No. 24N5325 Size cylinder, 3½ inches, for 1½-inch pipe. Price.....**$9.20**

New Acme Drilled Well Force Pump, with Windmill Head.

Figure 120

Our New Acme Drilled Well Force Pump, discharges a smooth, steady stream and operates unusually easy and is adapted for any kind of well, but especially for cased wells of small diameter. A large air chamber is placed inside the stock. It is so constructed as to avoid any of the parts getting out of order beyond ordinary wear. The cylinders are fitted with our new style, all brass poppet valves. Strainer and hose attachment furnished free of charge. The best single acting pump sold by anyone.

No. 24N5340 Size 2 has a 2½x12 brass flush capped cylinder for 1¼-inch pipe, will go into a 3-inch cased well. Price.....**$8.30**

No. 24N5341 Size 4 has a 3x12 brass flush capped cylinder for 1¼-inch pipe, will go into a 3½-inch cased well. Price.....**$8.40**

No. 24N5342 Size 6 has a 3½x12 brass flush capped cylinder for 1½-inch pipe, will go into a 4-inch cased well. Price.....**$9.40**

Acme Windmill Force Pump Standard.

Acme Windmill Force Pump Standard, with cocked spout and flanged base.

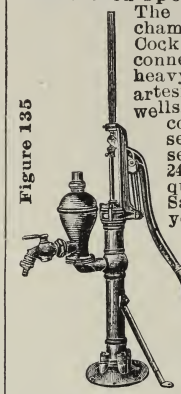


Figure 135

The upper discharge of air chamber is fitted for pipe. Cock spout is fitted for hose connection. It is made extra heavy and is intended for artesian or large tubular wells. To make this standard complete to put in well, select cylinder desired—see No. 24N5528 to No. 24N5550. Order pipe required (see No. 24N5710). Say how many feet deep your well is and how far down you wish to place the cylinder; add 5 cts. per foot for each foot the cylinder is put down, which covers the cost of labor, etc. As a guide to making order, see No. 24N5278, **adding cost of cylinder selected.**

No. 24N5344 Size, 1, 6-inch stroke, for 1¼-inch pipe. Price.....**$7.00**

No. 24N5345 Size 2, 10-inch stroke, for 1½-inch pipe. Price.....**$7.65**

We can furnish these standards for 2, 2½ or 3-inch pipe, if so desired.

Acme Improved Windmill Force Pump Standards.

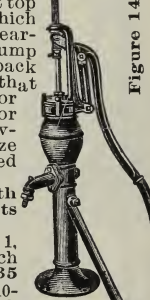


Figure 140

Our Improved Acme Windmill Force Pump Head or Standard, has brass stuffing box; hose connection ons pout; is furnished at top with a special bushing, which prevents the rod from wearing on the bearer. This pump is arranged with outlet back of spout or pump so that pipe can be attached for forcing water to tank or cistern. It is much heavier than the regular size Standard, and is intended for deep wells.

NOTICE.—If wanted with Cock Spout, add 75 cents to the following prices:

No. 24N5347 Size, 1, 6-inch stroke for ¼-inch pipe. Price.....**$3.35**

No. 24N5348 Size 2, 10-inch stroke for 2-inch pipe. Price.....**$3.70**

Windmill Head, Double Acting Drilled Well Force Pump.

Figure 110

Our Acme Double Acting Windmill Drilled Well Force Pump is adapted for drilled wells of small bore, and is so constructed that the cylinder and all of its parts below the platform will enter and pass into the casing or drilled hole, thus avoiding the cutting off of the casing so that the casing can be run up close to the platform, keeping out the surface water and all other impurities. Although this pump is especially adapted for drilled wells, it has no superior for dug or open wells. Lower cylinder is furnished with brass seat valves and poppet valves; also strainer and hose attachments furnished free of charge. **Has brass lined upper cylinder and brass lower cylinder.** A first class pump in every respect.

No. 24N5332 Size 2 has 2½-inch brass cylinder for 1¼-inch pipe. Will go into a 3-inch cased well. Price.....**$9.50**

No. 24N5333 Size 4, has a 3-inch brass cylinder for 1¼-inch pipe. Will go into a 3½-inch cased well. Price.....**$9.60**

No. 24N5334 Size 6, has a 3½-inch brass cylinder for 1½-inch pipe. Will go into a 4-inch cased well. Price.....**$10.20**

If wanted with brass lined lower cylinder, in place of all brass, deduct 50 cents from above prices.

Extra Heavy Windmill Standards.

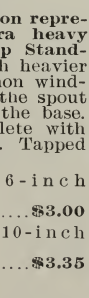


Figure 145

This illustration represents our extra heavy Windmill Pump Standard. It is much heavier than our common windmill pump, and the spout is higher from the base. Furnished complete with guides and rods. Tapped for 1¼-inch pipe.

No. 24N5349 6-inch stroke.
Price.....**$3.00**

No. 24N5350 10-inch stroke.
Price.....**$3.35**

	Size, cylinder	Price
No. 24N5356	2½ inches.....	**$ 9.55**
No. 24N5357	3 inches.....	**10.15**
No. 24N5358	3½ inches.....	**12.95**
No. 24N5359	4 inches.....	**14.00**

Underground Valve Force Pump.

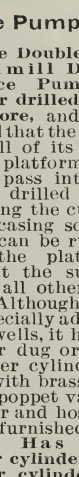


Figure 150

This pump is especially adapted for 2-inch tubular wells, also 1¼-inch pipe for open or drilled wells. By operating the wheel in the top of the gooseneck, the **water may be discharged either through the spout** or through the underground pipe at the bridge piece below. **It differs from other three-way valve pumps** in that the operating screw, which is of brass, is below, near the valve, and not at the gooseneck, consequently there is no liability to chill and freeze. **The pipe on the right** forms the air chamber. When this pump is used for tubular wells, it is made with a cap at the stuffing box, which, when unscrewed, leaves an opening large enough to pull the plunger up through without disconnecting the pipe or disturbing the pump in any way. **This pump** is always sent for 2-inch pipe, but may be bushed for smaller sizes, 1¼-inch discharge pipe. Gooseneck to fit 1-inch hose coupling.

No. 24N5352 6-inch stroke.....**$7.40**
No. 24N5353 10-inch stroke..... **7.75**

Suction pipe and rod coupling connect at B; discharge pipe connects at A.

NOTICE—The above prices are for the pump stock only; cylinder and pipe are extra. See No. 24N5528 for cylinder, and No. 24N5710 for pipe.

EXTRAS—To make complete outfit, select cylinder desired, and quantity of pipe wanted for suction, also number of feet of pipe wanted for discharge. **State number of feet cylinder shall be put down,** and in addition to cost of standard, cylinder and pipe, add 5 cents per foot for each foot the cylinder is put down.

Acme Siphon Force Pump.

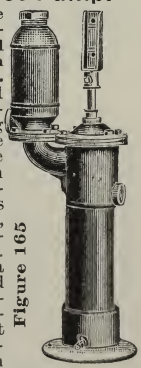
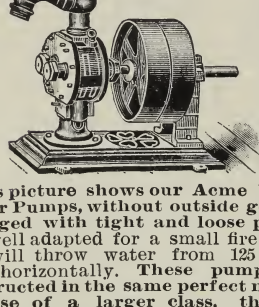


Figure 165

The Acme Siphon Force Pump is to be used in connection with a windmill for pumping water from wells 18 to 20 feet deep. It is constructed so that all working parts can be removed without disturbing the suction or discharge pipes or disarranging the pump or connections in any way. It has a seamless brass valve cap, brass plunger and piston rod, brass stuffing box and improved brass poppet valve. The air chamber has a large capacity and is fitted with check valve at discharge opening. The outlet can be set in different directions to suit the location. In short it is a high grade pump in every respect.

Acme Rotary Power Force Pumps.



This picture shows our Acme Rotary Power Pumps, without outside gearing, arranged with tight and loose pulleys. It is well adapted for a small fire pump, and will throw water from 125 to 150 feet horizontally. **These pumps are constructed in the same perfect manner as those of a larger class, the only difference being in the absence of the outside gearing.** The driving shaft is made of ample length to permit a balance wheel with handle to be placed on outside of the bearing, readily enabling it to be worked by hand in an emergency. The spout is screwed for hose on the outer end, and for wrought iron pipe where it connects to the pump. These pumps can be run up to 200 revolutions per minute without injury, although we recommend a lower rate of speed. Should not be placed over 15 to 20 feet distance from water. The second column of figures gives the capacity per minute of 100 revolutions.

Catalogue Number	Gallons	Size, Suction Pipe	Size, Discharge Pipe	Size, Pulleys	Price
24N5370	13	1¼ ins	1 inch	8x2½	$ 6.75
24N5371	14	1¼ ins	1 inch	8x2½	9.30
24N5372	17	1½ ins	1¼ ins	8x2½	12.00
24N5373	27	2 ins	1½ ins	12x3½	16.00
24N5374	36	2 ins	2 ins	12x3½	18.25

ALWAYS GIVE

EVERY LETTER AND FIGURE

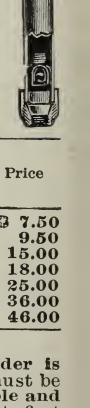
IN THE CATALOGUE NUMBER.

Brass Body Cylinders.

Brass Body Cylinders are practically as good as the solid brass, and much cheaper. The barrel is made of a seamless brass tube, and workmanship, stroke and capacity are all same as iron cylinders. 10 and 12-inch cylinders have 6-inch stroke, 14-inch cylinder has 8-inch stroke and 16-inch cylinder has 10-inch stroke.

No.	Diam. inches	10 in. long	12 in. long	14 in. long	16 in. long	18 in. long
24N5545	2	$1.94	$2.07	$2.40	$2.45	$2.70
24N5546	2¼	1.95	2.08	2.45	2.47	3.00
24N5547	2½	2.00	2.15	2.55	2.60	3.20
24N5548	2¾	2.15	2.25	2.65	2.70	3.36
24N5549	3	2.25	2.40	2.80	2.85	3.50
24N5550	3¼	2.62	2.70	3.15	3.25	3.70
24N5551	3½	2.65	2.80	3.30	3.40	4.20
24N5552	4	3.28	3.55	4.30	4.40	5.50

Artesian Well Brass Cylinders.

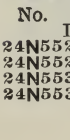


This illustration represents our all brass cylinder to be used in artesian wells, the shell being made of heavy seamless brass tubing, fitted with hard brass or bronze ball valves and which are supplied with best cupped oak tanned leathers. This cylinder may be placed in open wells and in drilled wells where the pipe or casing is long enough to take the cylinder attachments. They are adapted to work in the deepest wells.

NOTICE—The plunger and lower valves may be removed through the connecting pipe, which is larger in diameter than the bore of the cylinder, thus making it convenient when repairs are necessary.

No.	Length of Cyl.	Stroke Inches	Inside Diam. Inches	Fitted for Pipe Inches	Price
24N5560	36-inch	16	1⅜	1½	$ 7.50
24N5561	33-inch	16	1¾	2	9.50
24N5562	43-inch	24	2¼	2½	15.00
24N5563	45-inch	24	2¾	3	18.00
24N5564	49-inch	24	3¼	3½	25.00
24N5565	51-inch	24	3¾	4	36.00
24N5566	59-inch	30	4¼	4½	46.00

Pump Cylinders.



By means of the cylinder water is raised and unless the cylinder is well made no good results can be obtained. A good cylinder must be bored true and plunger must fit accurately. Valves must be simple and durable. The cost of repairing a cylinder is usually more than its first cost, so it pays to get the best. Our cylinders are **the best that skilled workmen can produce** and our prices as low as equally well made goods can be sold for. Cylinders 12 inches long have 6-inch stroke and can be used in wells up to 35 feet deep. Cylinders 10 inches long have 6-inch stroke and can be used in wells up to 35 to 75 feet deep. Cylinders 14 inches long have 8-inch stroke and can be used in wells up to 150 feet deep. Cylinders 16 inches long have 10-inch stroke and can be used in wells up to 200 feet deep. Cylinders 2 inches in diameter are fitted for 1-inch pipe. Cylinders 3½ inches in diameter are fitted for 1½-inch pipe. Cylinders 4 inches in diameter are fitted for 2-inch pipe. All others fitted for 1¼-inch pipe.

No.	Diam.	In. long 10 in.	long 12 in.	long 14 in.	long 16 in.	long 18in.
24N5528	2	$0.75	$1.10	$1.20	$1.20	$1.35
24N5529	2¼	.80	1.18	1.25	1.30	1.45
24N5530	2½	.90	1.20	1.30	1.40	1.50
24N5531	2¾	.98	1.30	1.40	1.50	1.60

No.	Diam.	In. long 10 in.	long 12 in.	long 14 in.	long 16 in.	long 18in.
24N5532	3	$1.00	$1.38	$1.53	$1.60	$1.75
24N5533	3¼	1.25	1.50	1.75	1.95	2.05
24N5534	3½	1.40	1.80	2.00	2.25	2.50
24N5535	4	1.75	2.30	2.60	2.90	3.20

Ball Valve Pump Cylinders.

In our Ball Valve Cylinder we have the best deep well cylinder made. In putting down a 75 to 300-foot well, it is very essential that you have a cylinder that will work well at all times and last a lifetime. Pulling up a pump of this kind costs money. This cylinder is fitted with a four-leather plunger and brass bronze ball valve, which will raise a greater amount of water and last longer than any cylinder on the market. **Furnished with either inside or outside caps. Be sure and state kind wanted.**

No.	Size, inches	Fitted Pipe, inches	Stroke, inches	Price, Iron	Price, Brass Lined
24N5570	2 x16	1¼	8	$2.70	$3.50
24N5571	2¼x16	1¼	8	3.00	4.00
24N5572	2½x16	1¼	8	3.35	4.30
24N5573	2 x18	1¼	10	2.90	4.00
24N5574	2¼x18	1¼	10	3.15	4.35
24N5575	2½x18	1¼	10	3.50	4.70
24N5576	2¾x18	1¼	8	4.45	5.40
24N5577	3 x18	1¼	8	5.70	7.00
24N5578	2 x20	1¼	12	3.05	4.35
24N5579	2¼x20	1¼	12	3.35	4.75
24N5580	2½x20	1¼	12	3.70	4.85
24N5581	2¾x20	1¼	10	4.45	5.95
24N5582	3 x20	1¼	10	5.80	8.00

Irrigation Cylinders.

This is an extra large cylinder used for pumping large quantities of water or for irrigating. Can be used in any depth well, and by hand or windmill power. By using a stuffing box or a common tee, you have a pump that will answer for irrigating purposes, at very small cost. Has brass plunger cage, brass plunger poppet, two valve leathers, brass seat valve inseat cap; furnished with either inside or outside caps. Will be furnished with flange for spiral steel pipe same size as cylinder, if so ordered, in place of regular flange, for which no extra charge will be made.

No.	Inside Diam., in.	L'gth, in.	Stroke, in.	Fitted for Pipe, in.	Brass Body, Price
24N5584	5	18	12	3	$11.25
24N5585	6	18	12	3½	16.75
24N5586	8	18	12	5	31.00
24N5587	5	20	14	3	12.50
24N5588	6	20	14	3½	18.20
24N5589	8	20	14	5	35.00

Steel Pump Rods.

No. 24N5630 Steel Pump Rod. Round steel pump rod used for connecting pump cylinder to pump head. Comes in random lengths of about 16 feet. Size, $\frac{7}{16}$-inch. **Not threaded.** Price, per foot.....2½c

Tubular Well Cylinders.

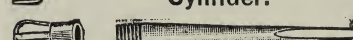
Used in deep tubular wells, or in wells where water has given out, and you wish to drive pipe further down. It slips **inside the pipe** and can be set at any desired distance; **can be removed for repairing** by simply disconnecting handle of pump and drawing cylinder out. **No pump tools required.** The body is made of seamless drawn brass tubing, with brass valves. Stroke, 12 inches. **Not made smaller than 2 inches.**

No. 24N5592 Size, 2-inch. Price.....$1.75

No. 24N5593 Size, 2½-inch. Price.....$3.15

No. 24N5594 Size, 3-inch. Price.....$4.40

Seating Tool for Above Cylinder.



No. 24N5600 2 -in. cylinder. Price, 20c
No. 24N5602 2½-in. cylinder. Price, 25c
No. 24N5603 3 -in. cylinder. Price, 35c

Tubular Well Ball Valves.

Tubular Well Ball Valves. Extra heavy; well finished inside and out. One of the best made valves on the market. Set consists of one check and one plunger valve as shown in illustration.

No. 24N5604 2-inch. Price, per set.....85c

No. 24N5605 2½-inch. Price, per set.....$2.10

No. 24N5606 3-inch. Price, per set.....$2.65

Tubular Well Poppet Valves.

Extra Heavy Tubular Well Poppet Valves. Two leathers; nicely finished; furnished complete as shown in illustration. Set consists of one each, check and plunger valve.

No. 24N5608 Size 2-inch. Price, per set..$0.84

No. 24N5609 Size, 2½-inch. Price, per set.....2.08

No. 24N5610 Size, 3-inch. Price, per set.....2.60

Rod Couplings.

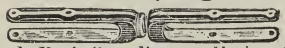
Malleable Iron Rod Couplings. Threaded ready for use. To be used on steel or iron pump rods.

No. 24N5620 Size, ⅜-inch. 14 threads to the inch. Price...2½c

No. 24N5621 Size, $\frac{7}{16}$-inch. 14 threads to the inch. Price...2½c

No. 24N5622 Size, ½-inch. 14 threads to the inch. Price.....3c

Rod Couplings.



Wood Rod Couplings. Made of the **best malleable iron.** To be used in connecting wood pump rod.

	Black	Galvanized.
No. 24N5635 Size, 1-inch,	**9c**	**11c**
No. 24N5636 Size, 1¼-inch.	**14c**	**16c**

Wood Pump Rods.

No. 24N5642 Wood Pump Rods used in connection with rod couplings, used mostly in tubular wells for connecting cylinder to pump head.

Size, 1 -inch. Price, per 100 feet.. **$1.20**
Size, 1¼-inch. Price, per 100 feet.. **1.70**

Malleable Strainers.

No. 24N5646 Malleable Pipe Strainers, to be used on the end of well and cistern pipe. Covered with brass wire cloth.

Size, 1 -inch.....**13c**
Size, 1¼-inch.....**14c**
Size, 1½-inch.....**16c**
Size, 2 -inch.....**21c**

Pump Leathers.

No. 24N5655 Plunger Leathers, made of the best grade oak tanned stock.

Plain. Diameter cylinder.						
Inches	2	2¼	2½	2¾	3	3½	4
Price..	**2½c**	**3c**	**4c**	**4c**	**4½c**	**5c**	**6c**

Plunger Leathers, Crimped.

Diameter cylinder.

No. 24N5657				
Inches	2	2¼	2½	2¾
Price..	**3c**	**3½c**	**4c**	**4¼c**
Inches	3	3½		4
Price	**5¼c**	**6c**		**7c**

Lower Valve Leathers.

No. 24N5659 Made of best grade oak tanned valve leather.

Diameter cylinder.

Inches.	2	2¼	2½	2¾
Price.	**2½c**	**3c**	**4c**	**4c**
Inches.....	3	3½	4	
Price.....	**4½c**	**5c**	**6c**	

Water Conductor.

No. 24N5665 This Cast Iron Conductor hangs over and directly under the spout of the pump. The pipe is screwed in at lower outlet on side to conduct water to a tank or trough that may be some distance from the pump. Price, 1¼ or 1½-inch pipe... **24c**

Foot Valves.

We recommend that Foot Valve and Strainer should be placed on lower end of pipe in wells more than 15 or 18 feet deep. **It makes pump work much easier** and the strainer prevents anything from entering the pipe which might clog the valves in cylinder. **Made in two sizes.**

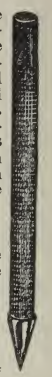
No. 24N5670 For 1¼-inch pipe.
Price..... **25c**
No. 24N5671 For 1½-inch pipe.
Price..... **36c**

Drive Well Points.

Drive Well Points are made of wrought iron pipe, galvanized inside and out after the holes are punched. It is covered with a brass gauze, and gauze is covered and protected by a **perforated brass jacket. No. 60 gauze is most commonly used. No. 100 gauze is for quicksand.** Either flush point for tubular wells or with cast head for driving. **Be sure and state which is wanted.**

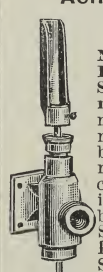
No. 24N5680 Flush Point.
No. 24N5681 Cast Point.

Diameter	Length	60-Gauze, Price	100-Gauze Price
1¼-inch	24-inch	**$0.54**	**$1.22**
1¼-inch	30-inch	**.70**	**1.51**
1¼-inch	36-inch	**.86**	**1.80**
1¼-inch	42-inch	**1.00**	**2.12**
1½-inch	30-inch	**.90**	**1.81**
1½-inch	36-inch	**1.08**	**2.14**
2 -inch	36-inch	**1.57**	**2.88**
2 -inch	48-inch	**1.95**	**3.76**



24N5680 24N5681

Acme Well Force Pump Packing Heads.



No. 24N5686 Straight Rod Packing Head or Stuffing Box for Windmill and Force Pumps, made of the best grade malleable iron, with brass glands and brass rods. It has ⅛-inch rod coupling at top and ⅞-inch rod coupling at bottom.

Size for pipe, in....	1	1¼
Price.....	**$1.15**	**$1.20**
Size for pipe, in....	1½	2
Price.....	**1.21**	**1.22**

Packing Head for Wood Rod.

No. 24N5688 Windmill Force Pump Packing Head for Mill with Wood Rod. Has brass glands, and brass rods, finished complete ready for use.

Size for pipe, in...	1¼	1½	2
Price.....	**$2.20**	**$2.25**	**$2.30**

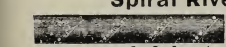
Artesian Well Working Head.

New Deep Well Working Head. Has double guides at sides while the stuffing box below can be used for forcing as well as raising water. Has hinged rod attachment.

No. 24N5689 24-inch stroke.

	Price
For 2 -inch pipe.....	**$9.00**
For 2½-inch pipe.....	**9.05**
For 3 -inch pipe.....	**9.10**
For 3½-inch pipe.....	**13.50**
For 4 -inch pipe.....	**13.75**

Spiral Riveted Pipe.



Spiral Riveted Pipe, made of the best annealed sheet steel. Stronger than any other pipe of equal thickness, the spiral seam being the strongest part. Light, durable and cheap in price. Just the thing for irrigation, draining, suction and discharge of pumps, etc. We recommend pipe with cast flanges, which can be bolted together at the joints, but for all common purposes such as irrigation, suction and discharge of centrifugal pumps, etc., the spiral riveted will answer the purpose. For all water purposes we advise pipe coated with asphaltum. **For air purposes and inside work use the galvanized pipe of the lighter gauges.**

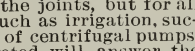
Slip Joint Spiral Pipe.

No. 24N5706 Slip Joint Pipe.

Inside Diameter	Weight per foot	Gauge	Price, per foot Asphalted.	Price, per foot Galvanized.
3 in.	No. 20	1.8 lb.	**$0.17**	**$0.23**
4 in.	No. 20	2.4 lb.	**.23**	**.27**
5 in.	No. 20	3. lb.	**.29**	**.38**
6 in.	No. 18	4. lb.	**.38**	**.52**
7 in.	No. 18	4.6 lb.	**.43**	**.57**
8 in.	No. 18	5.2 lb.	**.50**	**.64**
9 in.	No. 18	6. lb.	**.55**	**.79**
10 in.	No. 16	9. lb.	**.74**	**.95**
11 in.	No. 16	9.7 lb.	**.79**	**1.00**
12 in.	No. 16	11.5 lb.	**.95**	**1.20**
13 in.	No. 16	12.7 lb.	**1.05**	**1.32**

Spiral Riveted Pipe with Flanged Ends.

No. 24N5707 Price includes flanges attached as shown in illustration.



Inside Diameter	Gauge	Weight per foot	Price per foot Asphalted	Price per foot Galvanized
3 ins.	No. 20	2¼ lbs.	**$0.20**	**$0.28**
4 ins.	No. 20	3 lbs.	**.26**	**.38**
5 ins.	No. 20	4 lbs.	**.31**	**.57**
6 ins.	No. 18	5 lbs.	**.42**	**.68**
7 ins.	No. 18	6 lbs.	**.47**	**.77**
8 ins.	No. 18	7 lbs.	**.54**	**.92**
9 ins.	No. 18	8 lbs.	**.67**	**1.20**
10 ins.	No. 16	11 lbs.	**.78**	**1.40**
11 ins.	No. 16	12 lbs.	**.89**	**1.60**
12 ins.	No. 16	14 lbs.	**1.08**	**1.70**
13 ins.	No. 16	15 lbs.	**1.15**	**2.15**

Standard Well Casing.

In random lengths with threads and couplings, unless otherwise ordered.

No. 24N5712 Black Casing.

Inside Diameter, Inches	Outside Diameter, Inches	Pounds Per Foot	Price Black. Per Foot
2 -inch	2¼	2¼	**12c**
3 -inch	3¼	4	**21c**
3¼-inch	3½	4½	**21½c**
3½-inch	3¾	4¾	**22c**
4 -inch	4¼	6	**27c**
4½-inch	4¾	7	**29c**
5 -inch	5¼	8	**36c**
5⅝-inch	**6**	10¼	**46c**
6⅝-inch	**7**	12¼	**55c**
8¼-inch	8⅝	15	**69c**

Iron Pipe Fittings.

We illustrate the fittings that are commonly used, but can furnish any **fitting that is made.** If you want any fitting not quoted here, you can safely order it from us, allowing sufficient money to pay for it and **we will fill your order promptly;** or, if you prefer, write us and we will promptly and cheerfully quote price.

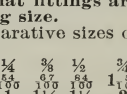
ABOUT SIZES.

Remember that the size of iron pipe is inside measure and that fittings are for pipe of corresponding size.

We show below the comparative sizes of iron pipe.

Pipe size, inches.....	⅛	¼	⅜	½	¾
Outside measure, ins.	$\frac{40}{100}$	$\frac{54}{100}$	$\frac{67}{100}$	$\frac{84}{100}$	$1\frac{5}{100}$
Pipe size, inches.....	1	1¼	1½	2	
Outside measure, ins.....	$1\frac{31}{100}$	$1\frac{68}{100}$	$1\frac{9}{10}$	$2\frac{37}{100}$	

Wrought Iron Couplings.



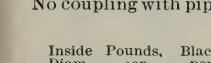
No. 24N5720 Black.

Pipe, inches.....	¼	⅜	½	¾
Price.....	2c	2¼c	2½c	3¼c
Pipe, inches.....	1	1¼	1½	2
Price.....	4¼c	5½c	6½c	9¼c

No. 24N5721 Galvanized.

Pipe, inches.....	¼	⅜	½	¾
Price.....	2½c	2¾c	3¼c	4¼c
Pipe, inches.....	1	1¼	1½	2
Price.....	6c	8¼c	10¼c	14c

Standard Wrought Iron Pipe.



Black and Galvanized. For steam, gas and water. When pipe is ordered in full lengths, one coupling is furnished free with each piece. Full lengths are from 16 to 20 feet long. **When pipe is cut to exact lengths we charge for threads on both ends, as per list below.** No coupling with pipe cut to exact length. **Prices of pipe subject to fluctuations of the market.**

No. 24N5710 Black Iron Pipe.

No. 24N5711 Galvanized Iron Pipe.

Inside Diameter	Pounds, per foot	Black, per foot	Galvanized, per foot	Extra threads per cut
⅛-inch	¼	2½c	3c	2½c
¼-inch	$\frac{24}{3}$	2½c	3c	2½c
⅜-inch	½	2½c	3c	2½c
½-inch	$\frac{8}{5}$	3½c	4½c	2½c
¾-inch	$1\frac{1}{10}$	4c	5½c	2½c
1-inch	$1\frac{2}{3}$	5½c	8c	3c
1¼-inch	$2\frac{2}{3}$	7½c	10½c	3½c
1½-inch	$3\frac{1}{3}$	9¼c	12¾c	4c

Inside Diameter	Pounds, per foot	Black, per foot	Galvanized, per foot	Extra threads per cut
2 -inch	$3\frac{2}{3}$	12¼c	17c	5c
2½-inch	5¾	19½c	27c	8½c
3 -inch	7½	25½c	35½c	12c
3½-inch	9	32c	45c	14½c
4 -inch	$10\frac{2}{3}$	36½c	51c	20c
4½-inch	12½	44c	61c	25c
5 -inch	14½	49c	68c	31c
6 -inch	$18\frac{3}{4}$	64c	85c	38c

Be sure to allow for cost of cutting threads when pipe is ordered cut to exact lengths.

Malleable Elbows.

No. 24N5724 Black.

Pipe, in	¼	⅜	½	¾
Price	2c	2c	3½c	5½c
Pipe, in	1	1¼	1½	2
Price	7c	8½c	11½c	16½c

No. 24N5725 Galvanized.

Pipe, inches	¼	⅜	½	¾
Price	2¼c	3c	5c	7c
Pipe, inches	1	1¼	1½	2
Price	10c	12c	19c	28c

45 Degrees Malleable Elbows.

No. 24N5728 Black.

Pipe, inches	¼	⅜	½	¾
Price	3c	3½c	4¼c	6½c
Pipe, inches	1	1¼	1½	2
Price	9c	12c	18c	26c

No. 24N5729 Galvanized.

Pipe, inches	¼	⅜	½	¾
Price	4¼c	5¼c	7c	8¾c
Pipe, inches	1	1¼	1½	2
Price	13c	16c	29c	39c

Malleable Tees.

No. 24N5732 Black.

Pipe, in	¼	⅜	½	¾
Price	2½c	3c	4c	5½c
Pipe, in	1	1¼	1½	2
Price	8c	10½c	15c	19c

No. 24N5733 Galvanized.

Pipe, inches	¼	⅜	½	¾
Price	3¼c	3½c	5½c	7c
Pipe, inches	1	1¼	1½	2
Price	12c	16c	23c	30c

Malleable Crosses.

All our fittings are Proctor goods, the highest grade made.

No. 24N5736 Black.

Pipe, inches	¼	⅜	½	¾
Price	2¾c	3½c	4¼	7c
Pipe, inches	1	1¼	1½	2
Price	10c	14c	21c	35c

No. 24N5737 Galvanized.

Pipe, inches	⅛	¾	1	1¼	1½	2
Price	6c	9c	15c	21c	31c	52c

Malleable Unions.

No 24N5740 Black.

Pipe in	¼	⅜	½	¾
Price	5½c	6¼c	7c	8¼c
Pipe, in	1	1¼	1½	2
Price	10c	14c	17c	22c

No. 24N5741 Galvanized.

Pipe, inches	¼	⅜	½	¾
Price	8¼c	9¼c	10c	12½c
Pipe, inches	1	1¼	1½	2
Price	15c	21c	27c	35c

Malleable Reducers.

To reduce one size—size given is big end.

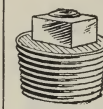
No. 24N5744 Black.

Pipe, in	¼	⅜	½	¾
Price	1½c	1¾c	3½c	
Pipe, in	1	1¼	1½	2
Price	5½c	7c	9½c	15c

No. 24N5745 Galvanized.

Pipe, in	½	¾	1	1¼	1½	2
Price	3c	5¼c	8¾c	11c	15c	25c

Cast Iron Plugs.



No. 24N5748 Black.

Pipe, in	¼	⅜	½	¾
Price	1c	1c	1¼c	1¼c
Pipe, in	1	1¼	1½	2
Price	1½c	1½c	2½c	3¼c

No. 24N5749 Galvanized.

Pipe, inches	¼	⅜	½	¾
Price	1½c	1½c	1½c	2½c
Pipe, inches	1	1¼	1½	2
Price	3c	3½c	5c	6½c

Bushings.

Reducing one size; outside size is given.

No. 24N5752 Black.

Pipe, in.	⅜	½	¾	1	1¼	1½	2
Price	1½c	1½c	2c	2½c	2½c	3c	4¾c

No. 24N5753 Galvanized.

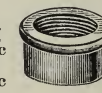
Pipe, in.	2¾c	2¾c	3¼c	4c	4¾c	6c	9c
Price	⅜	½	¾	1	1¼	1½	2

Lock Nuts.

No. 24N5755

Pipe, in	¼	⅜	½	¾
Price	2c	2c	2c	2c
Pipe, in	1	1¼	1½	2
Price	3c	4c	5c	6c

Pipe Caps.



No. 24N5758 Black.

Pipe, in	¼	⅜	½	¾
Price	2c	2c	2c	3c
Pipe, in	1	1¼	1½	2
Price	4c	5½c	8½c	11c

No. 24N5759 Galvanized.

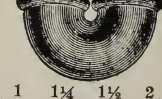
Pipe, inches	¼	⅜	½	¾
Price	2½c	2½c	2½c	3½c
Pipe, inches	1	1¼	1½	2
Price	5c	7½c	11½c	16c

Nipples.

State length wanted. All nipples 6 inches long and over will be charged at price per foot of iron pipe with cost of cutting threads added.

Size inches	No. 24N5763 Black short, Price	No. 24N5764 Galvanized short, Price	No. 24N5765 Black long, Price	No. 24N5766 Galvanized long, Price
¼	1½c	2c	2c	3c
⅜	1½c	2c	2½c	3c
½	2c	2c	2¾c	3¼c
¾	2c	2¾c	3c	4c
1	2¾c	3¾c	3¼c	5½c
1¼	3¾c	5c	3½c	8c
1½	4c	7c	6½c	9c
2	6c	9c	8½c	10c

Malleable Return Bends, Open Pattern.



No. 24N5769 Black.

Pipe, inches	½	¾	1	1¼	1½	2
Price	5c	8¾c	12c	17½c	26c	35c

Cast Iron Pipe Flanges.

No. 24N5780 These flanges are used for making pipe railings and where steel or wood tanks are tapped for pipe connections these flanges will make a much tighter connection and will last twice as long as the common lock nut, ordinarily used for this purpose.

Size of pipe, inches	Diam. of flange, inches	Price	Size of pipe, inches	Diam. of flange, inches	Price
⅜x	3	4½c	1¼	4½	9½c
½x	3½	5½c	1¼	5	10½
¾x	3½	7 c	1½x	4½	9½c
¾	4	7½c	1½	5	11 c
¾	5	10 c	2x	5½	12 c
1x	4	8 c	2	6	14 c
1	5	10 c	2	6½	17 c
1¼x	4	8 c	2	7	22 c

Flanges marked with an x are drilled for screws. Balance have no screw holes.

We can furnish above flanges in such sizes on which we quote prices in above list.

Flange Unions.

No. 24N5782 Cast Iron Flange Unions are used in place of common unions where a tight connection is wanted especially on heavy work.

Size, inches	Diameter of flange, inches	No. of bolts in each	Price, black	Price galv.
½	3	3	13c	$0.25
¾	3 5/16	3	16c	.28
1	3⅜	3	18c	.32
1¼	4⅛	4	21c	.39
1½	4 1/16	4	25c	.48
2	5¼	4	31c	.63
2½	6 7/16	4	42½c	.78
3	6¾	4	47c	.95
3½	7½	4	56c	1.15
4	8⅜	5	65c	1.30

Brass Globe Valves.

No. 24N5826

For pipe, inch	¼	⅜	½	¾
Price	23c	25c	32c	41c
For pipe, inch	1		1¼	
Price	57c		80c	
For pipe, inch	1½		2	
Price	$1.10		$1.50	

Brass Angle Valves.

No. 24N5828

For pipe, inch	¼	⅜	½	¾
Price	25c	26c	33c	44c
For pipe, inch	1		1¼	
Price	58c		81c	
For pipe, inch	1½		2	
Price	$1.12		$1.70	

Brass Cross Valves.

No. 24N5830

For pipe, inch	¼	⅜
Price	38c	40c
For pipe, inch	½	¾
Price	46c	78c
For pipe, inch	1	1¼
Price	79c	$1.00
For pipe, inch	1½	2
Price	$1.40	$2.40

Horizontal Check Valves.

No. 24N5832

For pipe in	¼	⅜
Price	23c	24c
For pipe, in.	½	¾
Price	31c	39c
For pipe, in.	1	1¼
Price	53c	75c
For pipe, in.	1½	2
Price	$1.09	$1.65

Brass Three-way Cocks.

No. 24N5834

For pipe, in	½	¾
Price	$0.82	$0.87
For pipe, in	1	1½
Price	1.22	1.88
For pipe, in	1½	2
Price	2.40	3.50
For pipe, in	2½	3
Price	6.00	8.00

Vertical Check Valves.

No. 24N5838 Brass Vertical Check Valves, best quality.

For pipe, inch	¼	⅜
Price	24c	26c
For pipe, inch	½	¾
Price	34c	42c
For pipe, inch	1	1¼
Price	62c	90c
For pipe, inch	1½	2.
Price	$1.24	$1.85

Swing Check Valves.

No. 24N5840 Brass Swing Check Valve.

Size, inch	½	¾	1
Price	56c	70c	90c
Size, inch	1¼	1½	2
Price,	$1.06	$1.40	$1.90

Water Pipe Stops.

No. 24N5870 Brass Rough Stop, lever handle, screwed for iron pipe.

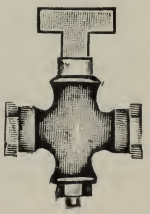
Size, inch	½	¾
Price, plain	35c	49c
Size, inch	1	1¼
Price, plain	74c	$1.12
Size, inch	1½	2
Price, plain	$1.55	$2.70

Check and Waste.

No. 24N5872 All Brass Check and Waste, lever handle, screwed for iron pipe.

Size, in.	½	¾	1
Price	40c	52c	80c
Size, in.	1¼		1½
Price	$1.20		$1.65

Rough Brass Stop Handle.

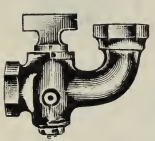


No. 24N5874 Rough Brass Stop Handle screwed for iron pipe.

Size, in.	½	¾	1
Price	28c	40c	60c
Size, in.	1¼	1½	2
Price	94c	$1.31	$2.23

Hydrant Clamp.

No. 24N5880 Malleable Iron Hydrant Clamp, with square hole; always give size hydrant cock clamp is to fit.
Price.....5½c



Hydrant Cocks.

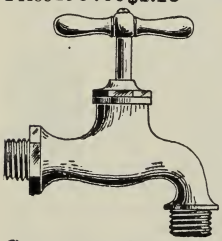
No. 24N5890 Brass Hydrant Cocks, for iron pipe connections. T handle.

Size, ins.	¾	1	1¼
Price	61c	$1.02	$1.70

C. C. Brand Hose Bibbs.

No. 24N7904 C. C. Brand Hose Bibbs, for iron pipe. Lever handle furnished.

Size, in.	½	¾	1
Price	49c	70c	$1.10



Compression Hose Bibbs.

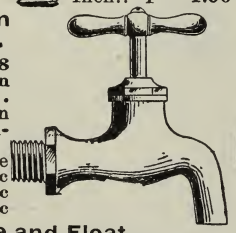
No. 24N7906 C. C. Brand. Screwed for iron pipe with shoulder; finished.

Size	Price
Inch.. ½	$0.42
Inch.. ¾	0.58
Inch.. 1	1.00

Compression Plain Bibbs.

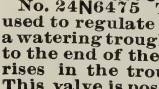
No. 24N7908 Compression Plain Bibbs. Screwed for iron pipe, with shoulder, finished.

Size	Price
Inch.. ½	33c
Inch.. ¾	49c
Inch.. 1	96c



Valve and Float.

No. 24N6475 This Valve and Float is used to regulate the supply of water in a watering trough. The Float is attached to the end of the lever, and as the water rises in the trough it shuts the valve. This valve is positive in opening or closing under high or low pressure. No chance of friction or of sticking in position. It will resist almost any pressure, as the pitman connecting fulcrum and valve, comes in a straight line with thrust of pressure when valve is closed. **It has brass valve seat.** By changing position of lever it will either open or close when used either on bottom or side of tank, or when two levers are used it can be used to open or close. **Base is large, so that no lock nut is needed inside of the tank.**



Size, inches	¾	1	1¼
Price	75c	80c	90c
Size, inches	1½	2	2½
Price	$1.75	$2.65	$4.50

Copper Tank Float.

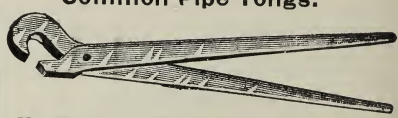
No. 24N6478 To be used in connection with No. 24N6475 Valve. When fastened to lever will be open and shut automatically. Size, 9½x2¾ inches.
Price.....78c

Driving Caps.

No. 24N6098 Driving Caps used for driving pipe for drive wells. Made extra heavy, will not crush the thread.

Size, inches	1¼	1½	2
Price	13c	15c	29c

Common Pipe Tongs.



No. 24N6120 The sizes given indicate the size pipe they are used on. Weight, 1¼ to 14½ pounds.

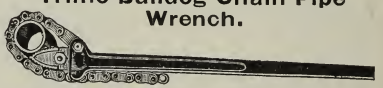
Size, inches	⅛	¼	⅜	½	¾
Price	33c	33c	35c	35c	48c
Size, inches	1	1¼	1½	2	2½
Price	60c	66c	80c	$1.05	$1.35

Brown's Adjustable Pipe Tongs.

No. 24N6122	No. 1	No. 1½
Takes pipe from	⅛ to ¾	⅜ to 1
Price	56c	70c

	No. 2	No. 3	No. 4
Takes pipe from	⅛ to 1¼	1 to 2	1¼ to 3
Price	80c	$1.12	$2.25

Trimo Bulldog Chain Pipe Wrench.



No. 24N6168 This wrench has a solid head, to the head is attached a forged steel jaw, enabling it to grip firmly without slipping, and to release its hold readily from the pipe. The chain can be easily placed, and quickly removed, at the will of the operator. **Points of Superiority:** Impossible to lock upon the pipe. The strain evenly distributed, each part bearing its proportion. Works equally well whether pulling up or down. Does not crush the pipe nor slip. Will handle close fittings and work in closer quarters than any other chain wrench made.

No.	11	12	13
Length, inches	20	27	37
Size of pipe	¼ to 1½	¼ to 2½	¾ to 4
Price	$1.90	$2.60	$3.65

Trimo Giant Pipe Wrench.

No. 24N6170 This chain pipe wrench is the strongest, safest and most durable pipe wrench in the world. This wrench has a solid forged head with detachable interchangeable gripping jaws made from a fine quality of tool steel. The chain used is the best quality of cable chain. The head is made so that the chain is held securely without danger of falling out, thus overcoming one of the most dangerous and unpleasant features attending the use of chain wrenches, and still can be readily released at the will of the operator. This wrench is made and adapted for all kinds of work as well as hard and rough usage. No slipping, no locking, no lost motion. We will make the handles of Nos. 5, 6 and 7 length to order, with or without ring, at an extra cost.

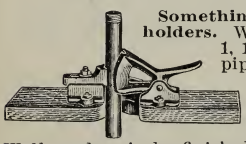
No.	2	3	4	5
Lgth. of lever in.	27	37	50	60
Takes pipe	¾ to 3	1 to 4	2 to 6	2½ to 10
Price	$3.40	$4.50	$5.60	$7.75

Little Patent Automatic Pipe Holder.

Little Patent Automatic Pipe Holder, simple, strong and quick acting. Has adjustable set screw for different size pipe. Dog and catch are made of best grade steel. Every machine made of the best quality of material.

No. 24N5611 No. 1, holds pipe 1, 1¼ and 1½ inches.
Price.....**$2.80**

Little Giant Pipe Holder.



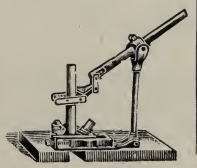
Something new in pipe holders. Will hold either 1, 1¼ or 1½-inch pipe. Dog has corrugated chilled surface; pipe cannot slip. Well made, nicely finished. A practical tool.

No. 24N5612 Price.....**$3.10**

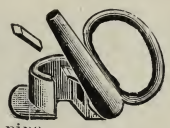
Babcock Pipe Lifter.

Price, $4.75

No. 24N5615 Babcock Pipe Lifter and Holder combination. For well drillers; a simple yet complete tool.
Price.....$4.75



Pipe Lifting Clevis.



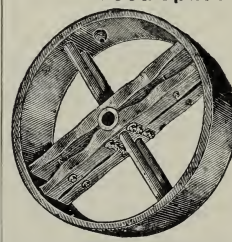
No. 24N5617 Pipe Lifting Clevis. A handy device to prevent pipe from slipping when being taken from well.
Price for 1 or 1¼-inch pipe.....**65c**

3-Ply Rubber Belting.

No. 24N8933 Standard quality, not guaranteed. Extra quality, guaranteed.

Size.	Standard, per ft.	Extra, per ft.	Size.	Standard, per ft.	Extra, per ft.
1½-in.	3½c	4½c	4-in.	9c	12¼c
2 -in.	4½c	6c	5-in.	11c	15½c
2½-in.	5½c	8c	6-in.	13c	18¾c
3 -in.	6½c	9¼c	10-in.	22½c	32½c
3½-in.	8c	10¾c	12-in.	27c	39c

Wood Split Pulleys.



No. 24N9090 Best grade Wood Split Pulleys. They are made with interchangeable bushing so that they fit any size shaft. In ordering give diameter, width of face, size of shaft pulley to be used on. You cannot be too explicit in ordering. Write us for prices on any size pulley not listed below. Space will not permit our listing our full line. Price list of pulleys.

Diam. In.	Face In.	Wood Split	Diam. In.	Face In.	Wood Split
4	4	$0.76	12	4	$1.29
4	6	.86	12	6	1.40
6	4	.85	14	4	1.30
6	6	.99	14	6	1.56
7	4	.86	16	6	1.80
7	6	1.00	18	6	2.05
8	4	.93	20	6	2.30
8	6	1.08	24	6	2.81
9	6	1.08	26	6	8.10
10	4	1.15	28	6	3.43
10	6	1.22	30	6	3.83

..WE SELL EVERYTHING..

IN THE LINE OF

Blacksmiths' Tools and Supplies,
Carpenters' Tools and Supplies,
Builders' Hardware,
Electrical Goods and Supplies,

and if you need anything in this line, write for our

FREE SPECIAL CATALOGUE,

covering the special line of goods you are interested in.

STOOD A STORM THAT WRECKED ALL OTHERS.

Markleville, Ind.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—On June 25, 1902, a tornado passed through this community, tearing down a number of buildings, destroying crops, timber, etc. Every steel windmill except mine was blown over. We are truly glad we bought one of your steel mills.

From a customer, J. A. McDANIEL.

WELL PLEASED—SAVED $20.00.

Peck, Kansas.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I received the windmill and tower I bought of you all right. I am well pleased with the outfit. I saved $20.00 by buying of you. My father will send you an order today for a mill and tower. Wishing you future success, I remain,

Yours truly, S. T. WHEELER.

A STANDING ADVERTISEMENT.

Burns, Minn.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I have had my windmill up sometime, it works fine. As you probably know, it is a 10-foot mill, and it pumps when hardly a breeze can be felt. I am well pleased with it, and it is advertising your mills most every day.

Yours truly, LEWIS JOHNSON.

BETTER THAN $50.00 WINDMILLS.

Germantown, Cal.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—Last spring we bought a windmill of you. We received it in good condition and are well satisfied with it. It is better than any $50.00 windmill around here, and we paid only $37.00 with freight. Yours truly, MRS. J. LOBSIEN.

MAKING FRIENDS EVERY DAY.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I am very thankful for your catalogue and further wish to inform you that my windmill is giving perfect satisfaction in every way and is making friends every day and is equal if not better than the high priced mills selling in our town. Yours respectfully, JOHN A. RHEA.

ONE WINDMILL SELLS ANOTHER.

Beetown, Wis.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—I received your pumping windmill all right and in good shape. I am well satisfied with it. I find the windmill just as you represented. I got a better windmill than I expected to get for the money, and with your treatment I have no fault to find; everything is satisfactory. My windmill was the means of selling one to my neighbor, Mr. John Pringle, in town of Cassville. I can recommend your windmills as being first class. I remain, very truly yours,

SAMUEL BIRCH.

HAS NOT GIVEN A MINUTE'S TROUBLE.

Kenedy, Texas.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—In reply to your letter of recent date I am glad to say the windmill arrived in good condition, and has been pumping water now 16 months, only when shut off, and has never given me a minute's trouble; it has given entire satisfaction, and I do not only feel that I have saved money, I know it.

I remain, as ever, C. SCRUGGO.

STRONGEST AND SIMPLEST EVER SEEN.

Little Black, Wis.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: I bought one of your steel windmills last spring and it gives entire satisfaction. It is exactly as represented, and I can cheerfully recommend it to anyone wanting a windmill. I saved from $3.00 to $10.00 in buying from your house. The windmill is one of the strongest and simplest I have ever seen. It does not freeze down (as some of the other dealers said) in time of sleet, but works fine in every respect. H. A. PROHL.

NO TROUBLE TO PUT IT UP.

Red Oak, Iowa.

Sears, Roebuck & Co., Chicago. Ill.

Dear Sirs:—One year ago last September I received one of your windmills in good shape. In about a month after my well was finished and I put up the windmill myself without any trouble, and I think I have as good a windmill as anyone. The brake I think on it is quite a saving to the windmill, it does not run any when out of gear. I notice several others do. I suppose I saved at least $10.00 on it by getting it of you. Yours truly, F. E. SHIRES.

NO TROUBLE TO ERECT, SAVED $20.00.

Modesto, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I received the windmill and tower last summer, which is a fine outfit. Had no trouble to put together and raise. I saved about $20.00 by sending to you for it.

Yours truly,
BARTON W. TURNER.

KNOCKS OUT ITS COMPETITORS.

Quincy, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The windmill arrived in good shape, it is up and running right along, it runs easy and does its pumping like a little man, it knocks out a certain mill that is made in Chicago, and that claims to be the best mill made.

Yours, VALENTINE KIEM.

BEST WINDMILL IN THE NEIGHBORHOOD.

Palmyra, Nebr.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The windmill that I bought from you I can say is the best windmill in my neighborhood, and my neighbors all like it. My neighbors, Mr. Milekin and Mr. Wallon bought mills from your house because they like my mill, and think it is the best mill they ever saw. I have lost my big catalogue. Please send me another, as I think your house is a good place to buy from.

MARX L. BOLZ.

DOING GOOD WORK, AND SAVED $20.00.

Cisne, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The windmill I bought of you is doing good work, and runs with less wind than most mills, and it has cost me about $20.00 less than I would have had to pay an agent. Will you please send me some circulars and prices of heating stoves?

Yours respectfully, FRED PHILLIPS.

EASIEST RUNNING WINDMILL IN THE NEIGHBORHOOD.

Stockton, Cal.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I received my windmill all right. I have it up and running and am very much pleased with it, and all who see it pump water say it seems to run the easiest of any windmill in sight, which are no few, and of all makes and kinds, and I saved $10.00. I believe the mill is all you claim for it.

Respectfully yours, GEO. S. MARSHALL.

RUNS WHEN OTHERS ARE IDLE.

Canton, Neb.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I bought a 10-foot steel windmill from you in July 1899 which has given the best of satisfaction. It runs like a top, runs when my other mills are standing still. It regulates itself to the wind with such accuracy that it never stands still a minute when the wind is changing. In this country it is often the case the wind will blow from all directions in a few hours, I often have to go up on the tower of my other mills to turn the mill so the wind will strike the mill so as to make the mill turn. I am watering 400 head of cattle with your mill and it runs only about half of the time. It is over a well 110 feet deep and 1¼-inch pipe. No better mill in existence. It costs ten dollars less than any other 10-foot steel mill laid down here.

Yours respectfully, EMMETT JOHNSON.

SAVED $27.50.

Weidmaner, Ontario, Can.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—I now write you because I think it is right to let you know how I got along with my windmill. Well I got it all right in good condition and I also got it erected all right without any trouble, got everything in the right place and it works slick. I think it is the nicest windmill that I ever saw and the best part of the deal is that I saved $27.50 over the best offer that I had from any of the agents in our locality and that is worth saving. Don't think there will be any danger of me returning the mill after thirty days' trial. I remain yours,

GEORGE GRAHAM.

SAVED ABOUT $20.00.

Clear Lake, Iowa.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The windmill I bought of you arrived in good shape, and we put it up without any trouble. It works to our entire satisfaction and cost me about $20.00 less than the dealer would charge me for one of the same class.

Thanking you for past favors, I remain, Yours truly,

WM. BRAGG.

PROOF AGAINST STORMS.

Dixville, Minn.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—The windmill I received from you some time ago has satisfied me. I put it up myself: a good many windmills were blown down but mine stands all right. I am sorry that I did not order a 40-foot tower instead of a 30-foot. I think I shall raise it ten feet higher by putting a 10-foot tower on the bottom.

Yours truly, EDWARD HODORFF.

STRONGEST MILL MADE.

Springfield, S. D.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I am more than pleased with the windmill, and would not trade for $10.00 to boot on any other windmill in my neighborhood, which local agents sell from $5.00 to $15.00 more. I think it is the strongest windmill made. Perfect in every way and works to a queen's taste. Yours truly, EMIL KREBER.

RUNS WHEN OTHER WINDMILLS DO NOT.

Burns, Oregon.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—Last spring I received of your firm a 10-foot windmill; I can truly say it has given me full satisfaction, and is in all points just as represented. I know it will run where other windmills do not. Yours truly, FRED. DUNSTED.

HIS NEIGHBORS LIKE IT BETTER THAN THEIR OWN.

Pender, Nebraska.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—The windmill I ordered from you some time ago I received all O. K. I had it put up next day after receiving it. The windmill gives me entire satisfaction and only cost me one-half as much as they ask for windmills here. My neighbors who helped me put up the windmill all like it better than their own, for which I send you many thanks. You shall hear from me again.

Yours truly, J. H. MULLIN.

HAS TWO AND LIKES THEM.

Decatur, Mich.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—The windmill came all O. K. and I am well pleased with it. I have two of the kind now. One has been in constant use for eight years and is in good condition yet. It pumps water for a large amount of stock. It has never failed to furnish all the water we needed and it takes so little wind.

Respectfully yours, W. T. FOSDICK.

RUNS BETTER THAN OTHER MILLS.

Fisher, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I like the windmill I bought of you some time ago. I am well pleased with the way it works and it is better built than one windmill I was offered at home at $20.00 more in price, so I am well pleased, and everyone that sees the windmill says it runs better than any they ever saw. The tank is all right, built stronger than most tanks that are sold here. Yours respectfully, I. D. NELSON.

THEY ALL LIKE OUR MILLS.

Wray, Colo.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—The windmill I purchased from you arrived in due time and we put it up. It runs fine. I am well pleased with it and can recommend it to anyone. I consider I saved $9.00 by buying this windmill. Please send me your catalogue, as I wish to order some goods in the near future. Respectfully yours,

C. C. McGINNIS.

(Mr. McGinnis has since ordered windmills for Mr. J. J. Smith, Mr. T. E. Dearmond and Mr. Mitchel Cruse, all of Wray, Colo.)

LEADS THEM ALL.

Knights Ferry, Calif.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—Having put the 12-foot pumping windmill on my tower, I now write you that the mill is the best mill in this county and I will venture to say in the state of California without a doubt. My mill is pumping water 180 feet and pulls a 3-inch pump on a 6-inch stroke and runs when all the other mills in the neighborhood are standing still. There are all kinds here and this mill leads them all. I will recommend it to anybody as the best mill for all purposes. Everybody that sees it says it is the best they ever saw. It pumped my two tanks of 22,000 gallons in less than three days in calm weather the first week of August, it was terrible hot, 112 in the shade, and very little wind. I remain. Yours truly, T. J. CASHMAN.

MORE THAN PLEASED.

Thomson, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen: The windmill came to hand on time all O. K. and I had it set up and it has run like a top ever since; have only had to pump by hand twice on still days, which is remarkable, as my home is at the foot of a high bluff where I had thought that a windmill would run only when the wind was from the east; therefore am more than pleased with it. Yours respectfully, E. H. DYSON.

RUNS LIKE A TOP.

Ticonic, Iowa.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen: I am very much pleased with the windmill. It runs like a top. Anybody would not know that it was running or not unless they looked at it. It runs when the old one would not. I do not know what they cost here, but I think my cousin paid $28.00 for the one he has, and I know that I saved money by sending to you. I know that I can save about 25 per cent, or more.

Yours truly, JNO. W. NEWTON.

BETTER THAN REPRESENTED.

New London, Conn.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs: I purchased an 8-foot windmill of you over a month ago, and find that it works like a charm; it does more than you agreed it would in your catalogue. I have, in the course of two months, sent three orders to your firm, amounting to over $250.00, and I find the firm to be very respectable in their dealings, even sending me back money I overpaid, for which I thank you very much. I also want to speak of the tank I purchased of you. I have showed same to a great many of my neighbors, also I have told them the price paid for same, and they are astonished at it. Stove also is very satisfactory. I find that the freight charges are but very little. I consider myself in luck to find such a respectable place to buy the things I purchased; quite different from another large firm in Chicago (I will not mention the name) which I had dealings with. Hoping you success in your business, I remain, Yours respectfully, LAWRENCE COIT.

BEST TOWER HE EVER SAW.

Cedar Lake, Iowa.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen: The 8-foot galvanized windmill I bought of you May last, has given satisfaction; all the trouble with it is to oil it sometimes. The 50-foot steel tower I bought of you is one of the best towers I ever saw. It is substantial and strong and has many advantages over other makes, and is simple and easy to put together. The saving to order of you was considerable.

Respectfully, OLE OLSON.

OUR GOODS AS GOOD AS MONEY CAN BUY.

Milfordton, Ohio.

Sears Roebuck & Co., Chicago, Ill.

Dear Sirs:—The balance of my order came to hand today all right. Will say in regard to tower and wheel that I like the appearance of it, it is stronger looking than any one erected in this vicinity of any make or price, and will open the eyes of some that think Sears, Roebuck & Co. sell nothing but cheap goods. This order makes about $200.00 worth of goods that myself and family have ordered from your house and all orders have been filled very satisfactorily, thanks for same,

Yours truly, W. L. BOTTENFIELD.

ADVISES ALL TO BUY OUR MAKE.

Jonesboro, Ark.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—In regard to the windmill that I ordered from you some time ago, I will say it is the best windmill beyond a doubt that I ever saw. Its strength and durability cannot be equaled in America. It has withstood some very hard winds and it is as good as it was the day I bought it. I bought it for my mother and she is highly pleased with it. My advice to anybody in need of a windmill is to buy your make. It cannot be beat. Yours respectfully, J. W. RINEY.

DON'T TAKE BUT LITTLE WIND.

Friedheim, Mo.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The windmill, feed cutter and grinder that I got from you are all right and give very good satisfaction. The windmill runs like a top, the least little breeze will make it run, it don't take but a little wind I can do some work. In a good wind I think I get from 4 to 6 horsepower. I don't think that there is a better windmill made for that price or any higher price. I am very well satisfied with my windmill outfit. Thanking you for your honesty and kindness.

Yours very truly, JOHN L. GROSHEIDER.

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SAVES $40.00 ON TWO OUTFITS.

Chardon, Iowa.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—We have got our windmills up we bought of you and we are well pleased with them. We saved over $20.00 on each mill. Think you will get more orders from this part of the country. Yours truly, W. L. MILLER.

IS SATISFIED AND SAVED $15.00.

Larkspur, Colo.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The windmill I bought of you is giving entire satisfaction and cost me at least $15.00 less than other mills no better. There are other parties here wanting mills I have talked with some of them and think I have convinced them that your mill is the mill to buy. Yours very truly,, S. D. ASHBY.

STANDS WHERE OTHERS FALL.

Lewis, Cass Co., Ia.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The steel mill and tower I bought of you about three years ago cannot be excelled by any. It has stood the late storms successfully, while many hundred windmills in our county have been blown down and wrecked. I advise farmers to buy the mill you handle, for durability and ease of running.

Yours truly, THOS. MEREDITH.

ADVISES OTHERS TO PURCHASE OF US.

Greenfield, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I will say that I am very much pleased with the mill. If anyone wants a good mill will recommend your steel mill.

Respectfully yours, D. W. BURROUGHS.

SAVED $12.00 BY SENDING TO US.

Galva, Kan.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—The steel windmill and tower received from you is all O. K. and am well pleased with it and find it to work easy, noiseless and better than any one in the country. I saved $12.00 by sending to you. You can expect another order in the near future, as one of my neighbors wants me to order one for him. Thanking you, I remain, Yours most truly, J. Y. BRUCE.

EASIEST RUNNING MILL IN THE COUNTRY. WILL BUY ANOTHER.

Byron, Neb.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I received my windmill all right, and am very much pleased with it, and all who see it pump water say it seems to run the easiest of any windmill in the country. One of my neighbors ordered one just like it and speaks highly of it.

Very truly yours, E. J. ROBERTSON.

A GOOD ADVERTISEMENT.

Claremont, Minn.

Sears, Roebuck & Co., Chicago, Ill.

Gentlemen:—I received the windmill in good condition and set it up, and find it to work easy, noiseless and better than any one in the country, and I saved many dollars. It is a good advertisement of your Supply House. I intended to write long before this, but was so busy and forgot. Thanking you, I remain

Yours very truly, A. WEGNER.

MUCH PLEASED.

Geneseo, Ill.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sir:—I received my windmill all right and am much pleased with it. I think I saved money by placing the order in your hands.

Respectfully yours, CHARLES WALZER.

SUPERIOR TO ANY WINDMILL IN THE COUNTY.

Hartford City, Ind.

Sears, Roebuck & Co., Chicago, Ill.

Dear Sirs:—I have just finished erecting two 8-foot pumping windmills on 40-foot towers and find them far superior to anything in Blackford County, at anything near the price. Of all the windmills I have erected which is six different makes these are the simplest and easiest put together. I recommend them to all farmers who do not want to be robbed by the trusts and agents of windmill manufacturers.

Yours respectfully, H. L. WILLIAMS.